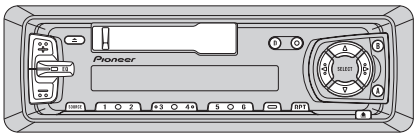
Service Manual

KEH-P4850/X1M/ES



ORDER NO.
CRT2261

MULTI-CD CONTROL HIGH POWER CASSETTE PLAYER WITH FM/AM TUNER

KEH-P4800 X1M/UC

KEH-P4850 X1M/ES

NOTE:

- See the separate manual CX-631(CRT1640) for the cassette mechanism description.
- The cassette mechanism assy employed in this model is one of 2L series.
- This service manual does not describe the CD test mode.
  For the operations in the CD test mode, refer to the CD player's Service Manual.

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K-ZZU. OCT. 1998 Printed in Japan

1. SAFETY INFORMATION

UC model

CAUTION

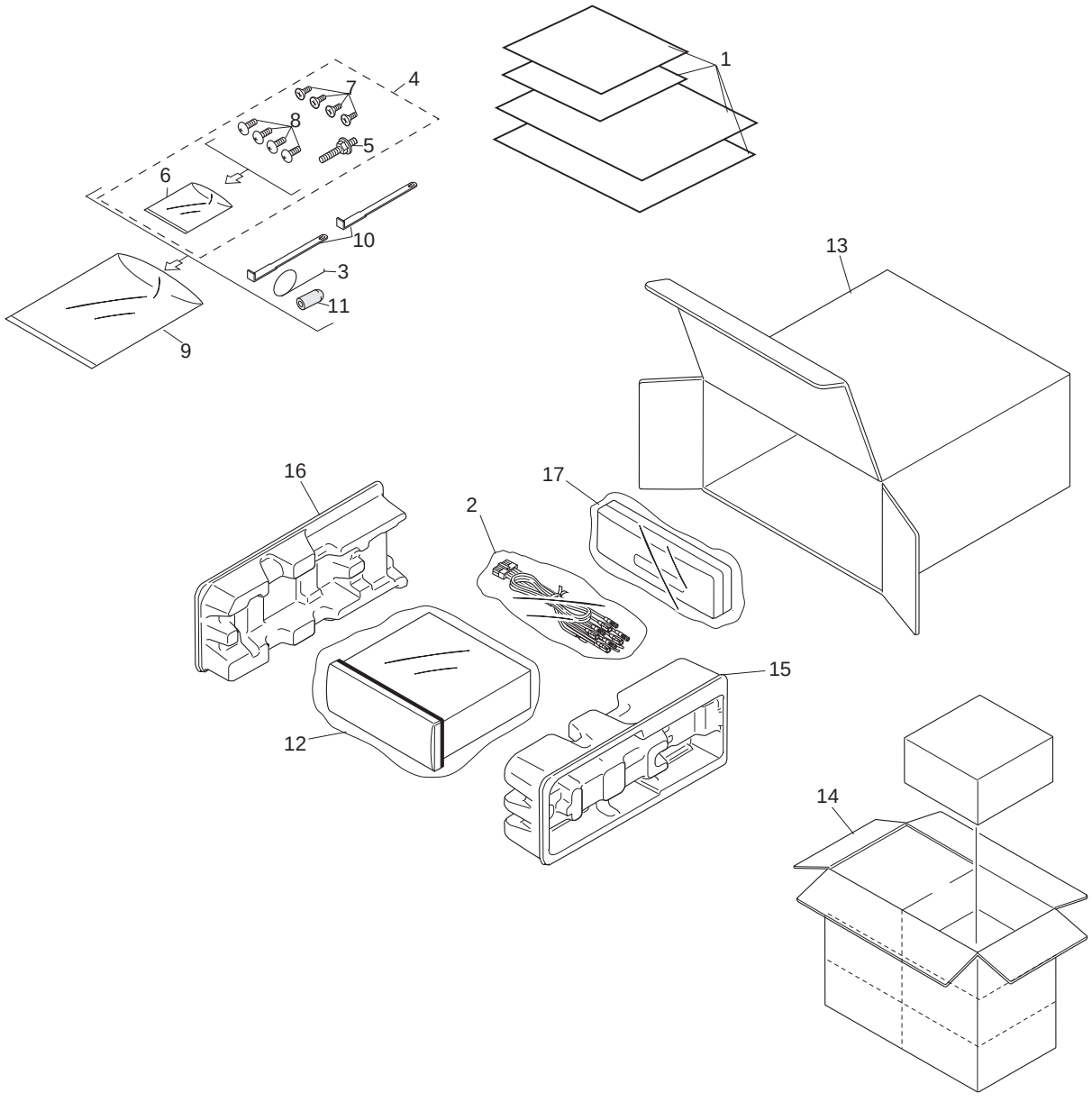
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health and Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

● Parts marked by "*"are generally unavailable because they are not in our Master Spare Parts List.

● Screws adjacent to ∇ mark on the product are used for disassembly.

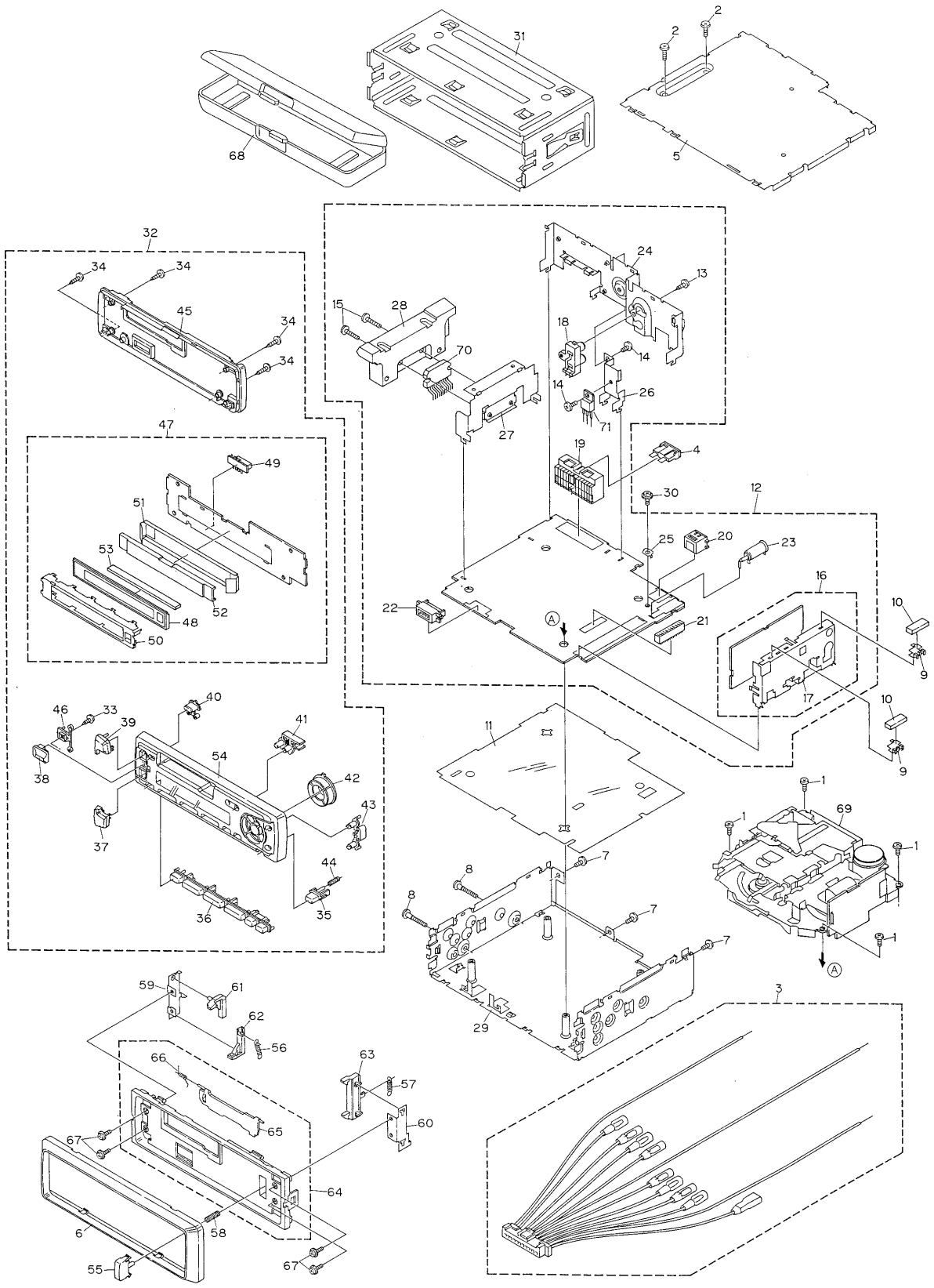
● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No. KEH-P4800/X1M/UC	Part No. KEH-P4850/X1M/ES
*	1-1	Card	ARY1048	Not used
	1-2	Owner's Manual	CRD2783	CRD2785
	1-3	Installation Manual	CRD2784	CRD2787
	1-4	Owner's Manual	Not used	CRD2786
	2	Cord Assy	CDE5798	CDE5798
	3	Spring	CBH1650	CBH1650
	4	Screw Assy	CEA2351	CEA2351
	5	Screw	CBA1304	CBA1304
*	6	Polyethylene Bag	CEG-127	CEG-127
	7	Screw	CRZ50P090FMC	CRZ50P090FMC
	8	Screw	TRZ50P080FMC	TRZ50P080FMC
*	9	Polyethylene Bag	CEG-158	CEG-158
	10	Handle	CNC5395	CNC5395
	11	Bush	CNV3930	CNV3930
	12	Polyethylene Bag	CEG1173	CEG-162
	13	Carton	CHG3570	CHG3571
	14	Contain Box	CHL3570	CHL3571
	15	Protector	CHP2101	CHP2101
	16	Protector	CHP2102	CHP2102
	17	Case Assy	CXB3520	CXB3520

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-P4800/X1M/UC	CRD2783	English, French, Spanish
	CRD2784	English, French, Spanish
KEH-P4850/X1M/ES	CRD2785	English, Spanish, Portuguese(B)
	CRD2786	Chinese, Arabic
	CRD2787	English, Spanish, Portuguese(B), Chinese, Arabic

2.2 EXTERIOR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3

(1) EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC
2	Screw	BSZ30P050FMC
3	Cord Assy	CDE5798
4	Fuse(10A)	CEK1136
5	Case	CNB2350
6	Panel	CNS5132
7	Screw	BSZ30P050FMC
8	Screw	BSZ30P200FMC
9	Holder	CNC5704
10	Cushion	CNM5210
11	Insulator	CNM5963
12	Tuner Amp Unit	See Contrast table(2)
13	Screw	BPZ26P080FMC
14	Screw	BSZ26P080FMC
15	Screw	BSZ26P160FMC
16	FM/AM Tuner Unit	See Contrast table(2)
17	Holder	CNC6554
18	Pin Jack(CN301)	CKB1035
19	Plug(CN603)	CKM1270
20	Connector(CN701)	CKS3408
21	Connector(CN602)	CKS3568
22	Connector(CN601)	CKS3581
23	Antenna Jack(CN402)	CKX1056
24	Panel	CNB2343
25	Holder	CNC5399
26	Holder	CNC6845
27	Holder	CNC7996
28	Heat Sink	CNR1505
29	Chassis Unit	CXB3012
30	Screw	ISS26P055FUC
31	Holder Unit	CXB2687
32	Detach Grille Assy	See Contrast table(2)
33	Screw	BPZ20P060FMC
34	Screw	BPZ20P100FZK
35	Button(Detach)	CAC5789

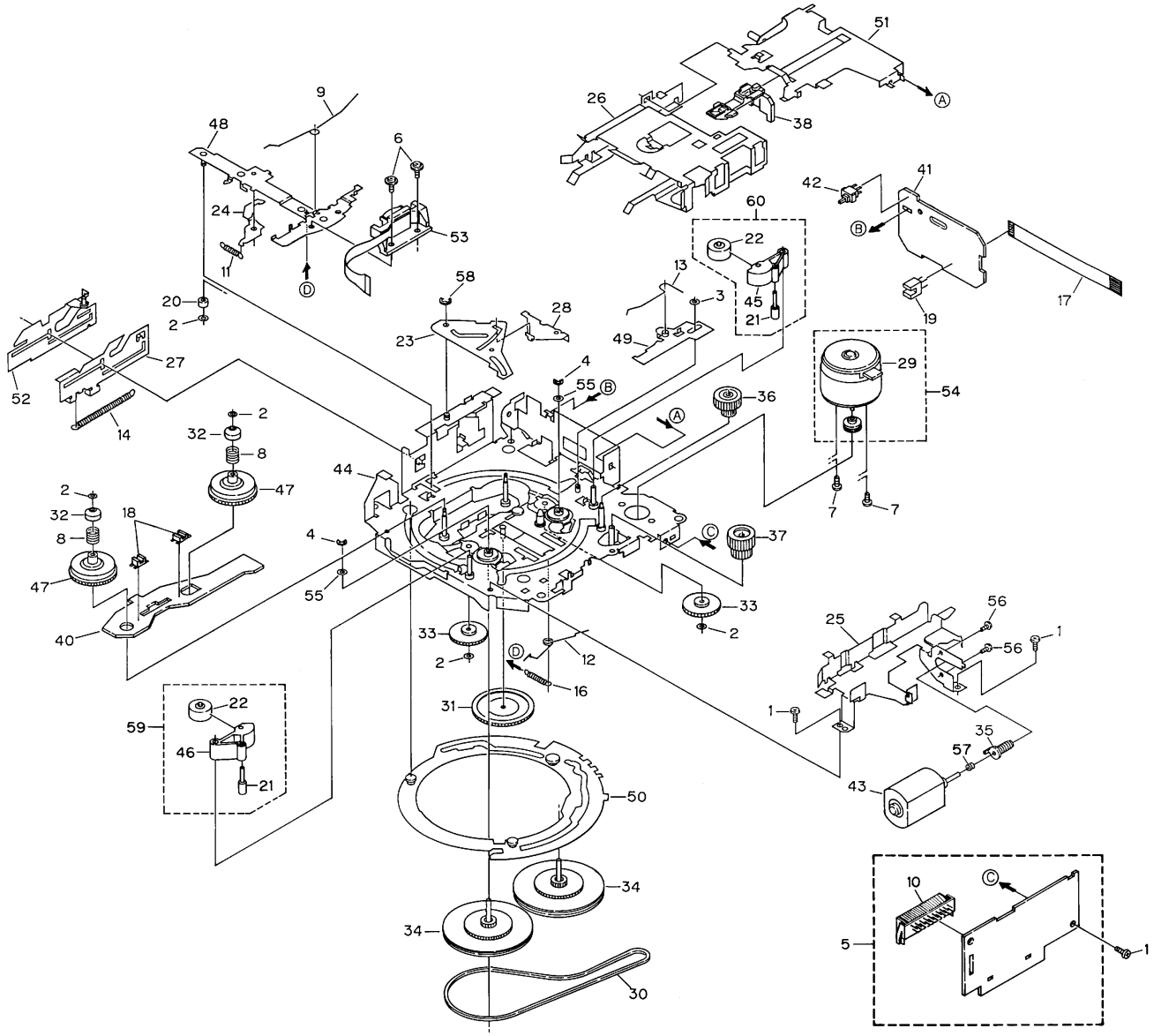
Mark No.	Description	Part No.
36	Button(1-6)	CAC5794
37	Button(-)	CAC5930
38	Button(EQ)	CAC6135
39	Button(+)	CAC5783
40	Button(Eject)	CAC5793
41	Button(Display)	CAC5788
42	Button(Cross)	CAC5786
43	Button(A,B)	CAC5787
44	Spring	CBH2103
45	Cover	CNS5130
46	Housing	CNV5528
47	Keyboard Unit	See Contrast table(2)
48	LCD(LCD1901)	CAW1543
49	Connector(CN1901)	CKS3580
50	Holder	CNC7981
51	Sheet	CNM5941
52	Lighting Conductor	CNV5527
53	Connector	CNV5531
54	Grille Unit	See Contrast table(2)
55	Button	CAC4836
56	Spring	CBH1834
57	Spring	CBH1835
58	Spring	CBH2182
59	Bracket	CNC6135
60	Bracket	CNC6791
61	Arm	CNV4692
62	Arm	CNV4693
63	Arm	CNV4728
64	Panel Unit	CXB3019
65	Door	CAT2028
66	Spring	CBH1838
67	Screw	IMS20P030FZK
68	Case Assy	CXB3520
69	Cassette Mechanism Module	EXK3695
70	IC(IC302)	TDA7384
71	Transistor(Q904)	2SD2396

(2)CONTRAST TABLE

KEH-P4800/X1M/UC and KEH-P4850/X1M/ES have the same construction except for the following:

Mark No.	Description	Part No. KEH-P4800/X1M/UC	Part No. KEH-P4850/X1M/ES
12	Tuner Amp Unit	CWM6248	CWM6249
16	FM/AM Tuner Unit	CWE1467	CWE1486
32	Detach Grille Assy	CXB3322	CXB3323
47	Keyboard Unit	CWM6259	CWM6260
54	Grille Unit	CXB4065	CXB4066

2.3 CASSETTE MECHANISM MODULE



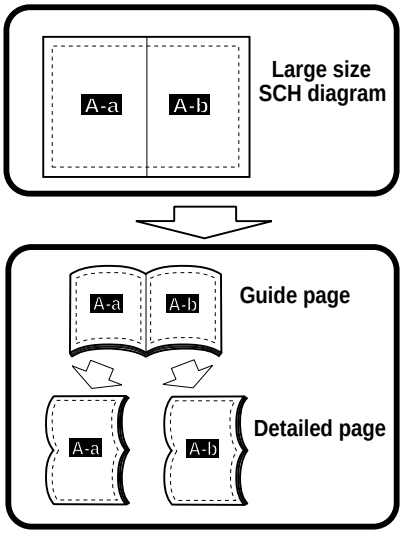
● CASSETTE MECHANISM MODULE SECTION PARTS LIST

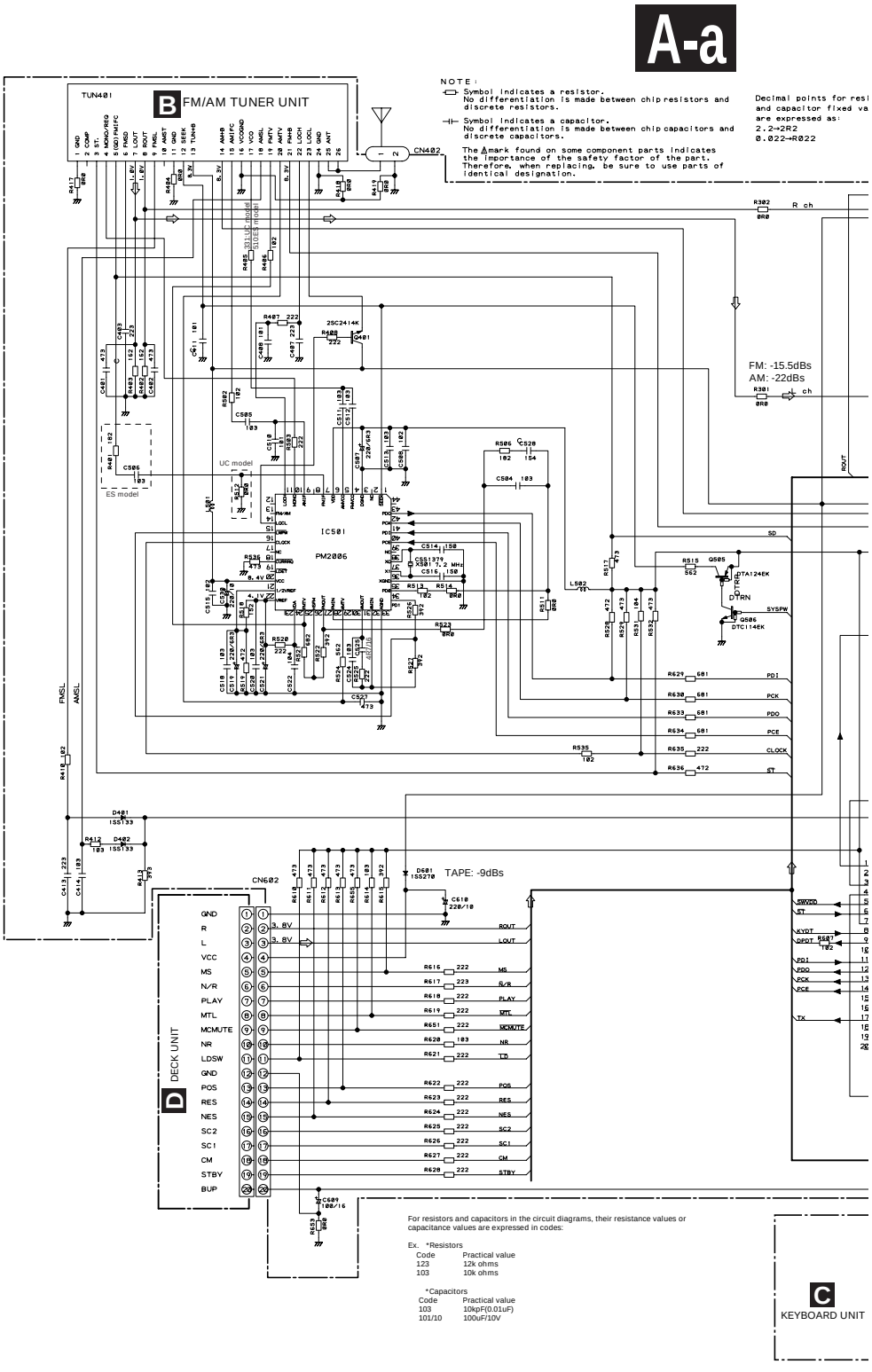
Mark	No.	Description	Part No.
	1	Screw	BSZ20P040FMC
	2	Washer	CBF1037
	3	Washer	CBF1038
	4	Washer	CBG1003
	5	Deck Unit	EWM1021
	6	Screw	EBA1028
	7	Screw	EBA1037
	8	Spring	EBH1531
	9	Spring	EBH1575
	10	Plug(CN251)	CKS3540
	11	Spring	EBH1515
	12	Spring	EBH1587
	13	Spring	EBH1517
	14	Spring	EBH1518
	15	•••••	
	16	Spring	EBH1537
	17	Cord	EDD1020
	18	Photo-interrupter(EGN2,3)	EGN1006
	19	Photo-interrupter(EGN1)	EGN1005
	20	Roller	ENR1031
	21	Shaft	ELA1373
	22	Pinch Roller	ENV1518
	23	Arm	ENC1489
	24	Arm	ENC1397
	25	Guide	ENC1481
	26	Holder	ENC1417
	27	Lever	ENC1448
	28	Arm	ENC1488
*	29	Motor	EXM1031
	30	Belt	ENT1027
	31	Gear	ENV1347
	32	Collar	ENV1508
	33	Gear	ENV1350
	34	Flywheel	ENV1500
	35	Worm Gear	ENV1439
	36	Worm Wheel	ENV1440
	37	Gear	ENR1028
	38	Lever	ENV1442
	39	•••••	
	40	Gathering PCB	ENX1037
	41	Gathering PCB	ENX1042
	42	Switch(S1)	ESG1004
	43	Motor Unit(M2)	EXA1485
	44	Chassis Unit	EXA1511
	45	Pinch Holder	ENV1485
	46	Pinch Holder	ENV1486
	47	Reel Unit	EXA1543
	48	Head Base Unit	EXA1457
	49	Lever Unit	EXA1438
	50	Gear Unit	EXA1574
	51	Frame Unit	EXA1458
	52	Lever Unit	EXA1439
	53	Head Assy(HD1)	EXA1506
	54	Motor Unit(M1)	EXA1490
	55	Washer	HBF-179
	56	Screw	BMZ20P022FMC
	57	Spring	EBH1545
	58	Washer	YE20FUC
	59	Pinch Holder Unit	EXA1529
	60	Pinch Holder Unit	EXA1528

3. SCHEMATIC DIAGRAM

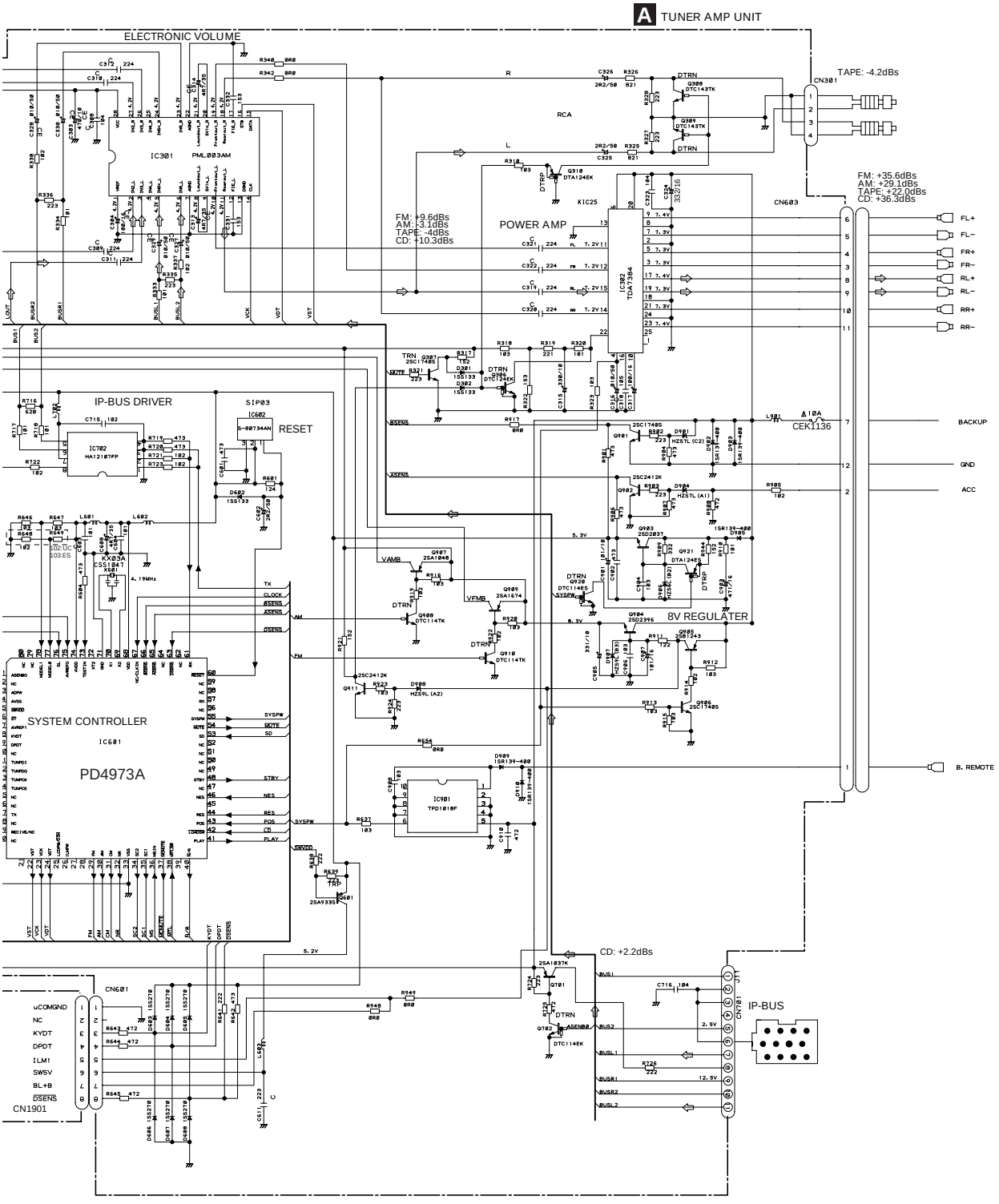
3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".





A-b

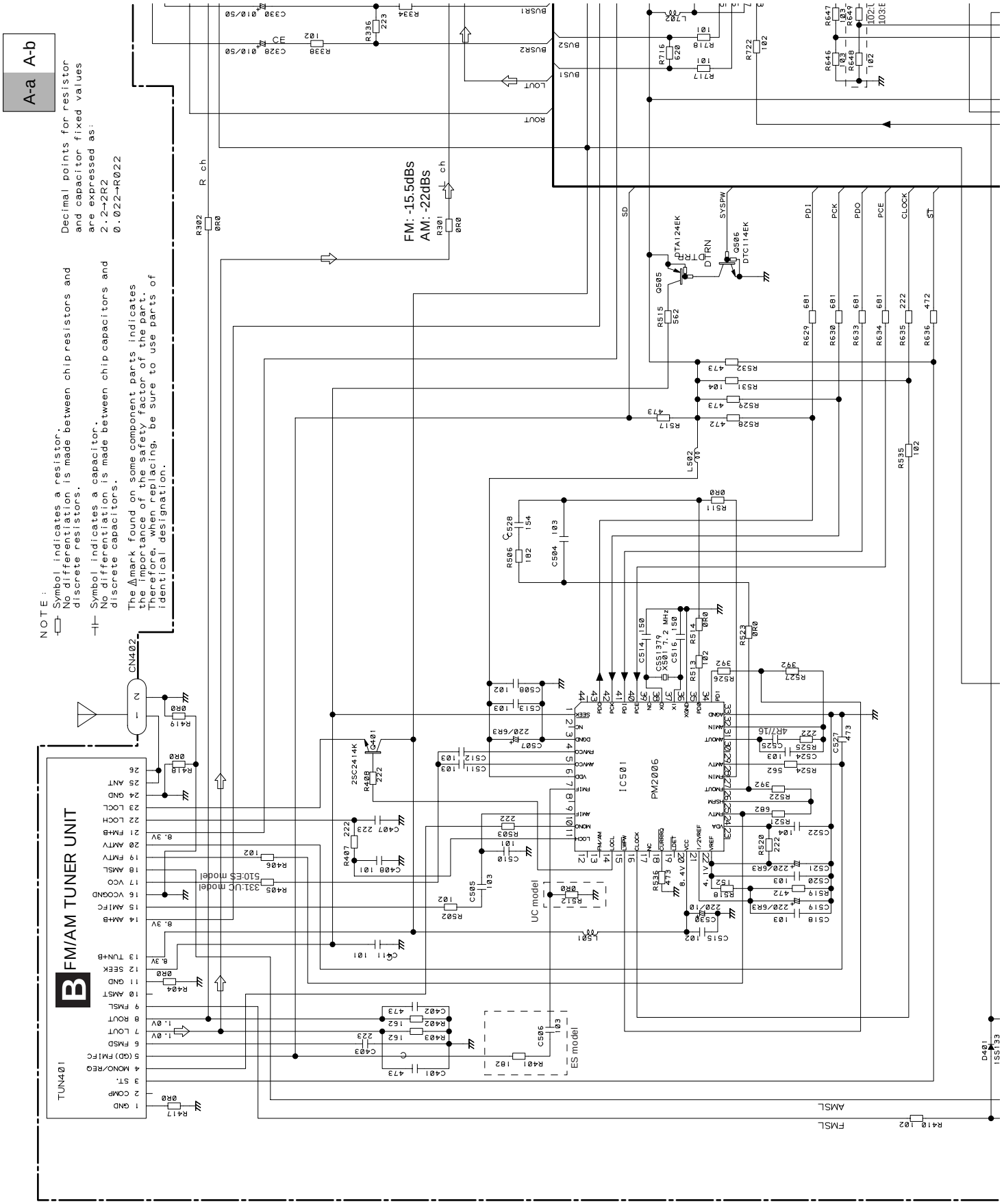

A TUNER AMP UNIT
ELECTRONIC VOLUME
IC301 PML003AM
RCA
TAPE: -4.2dBs
FM: +9.6dBs
AM: -3.1dBs
TAPE: -4dBs
CD: +10.3dBs
POWER AMP
IC302 TDA7384
FM: +35.6dBs
AM: +29.1dBs
TAPE: +22.0dBs
CD: +36.3dBs
CN603
FL+
FL−
FR+
FR−
RL+
RL−
RR+
RR−
IP-BUS DRIVER
SIP03
IC602 S-80734AN
RESET
IC702 HA12107FP
CEK1136
BACKUP
GND
ACC
B. REMOTE
8V REGULATER
SYSTEM CONTROLLER
IC601
PD4973A
IC901 TPD1018F
CD: +2.2dBs
IP-BUS
CN7801
CN601
CN1901
uCOMGND
NC
KYDT
DPDT
ILM1
SWSV
BL+B
DSENS

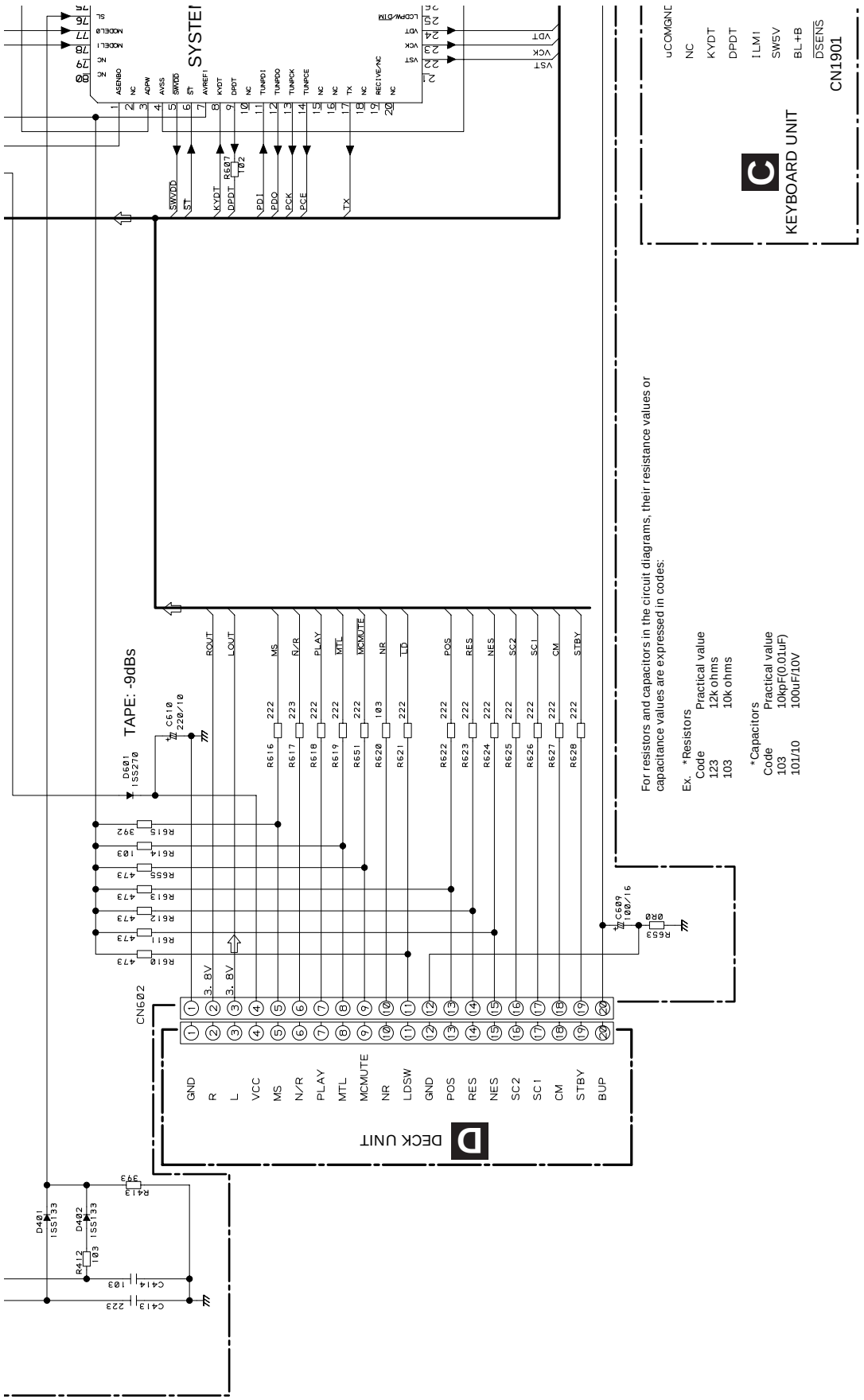
A

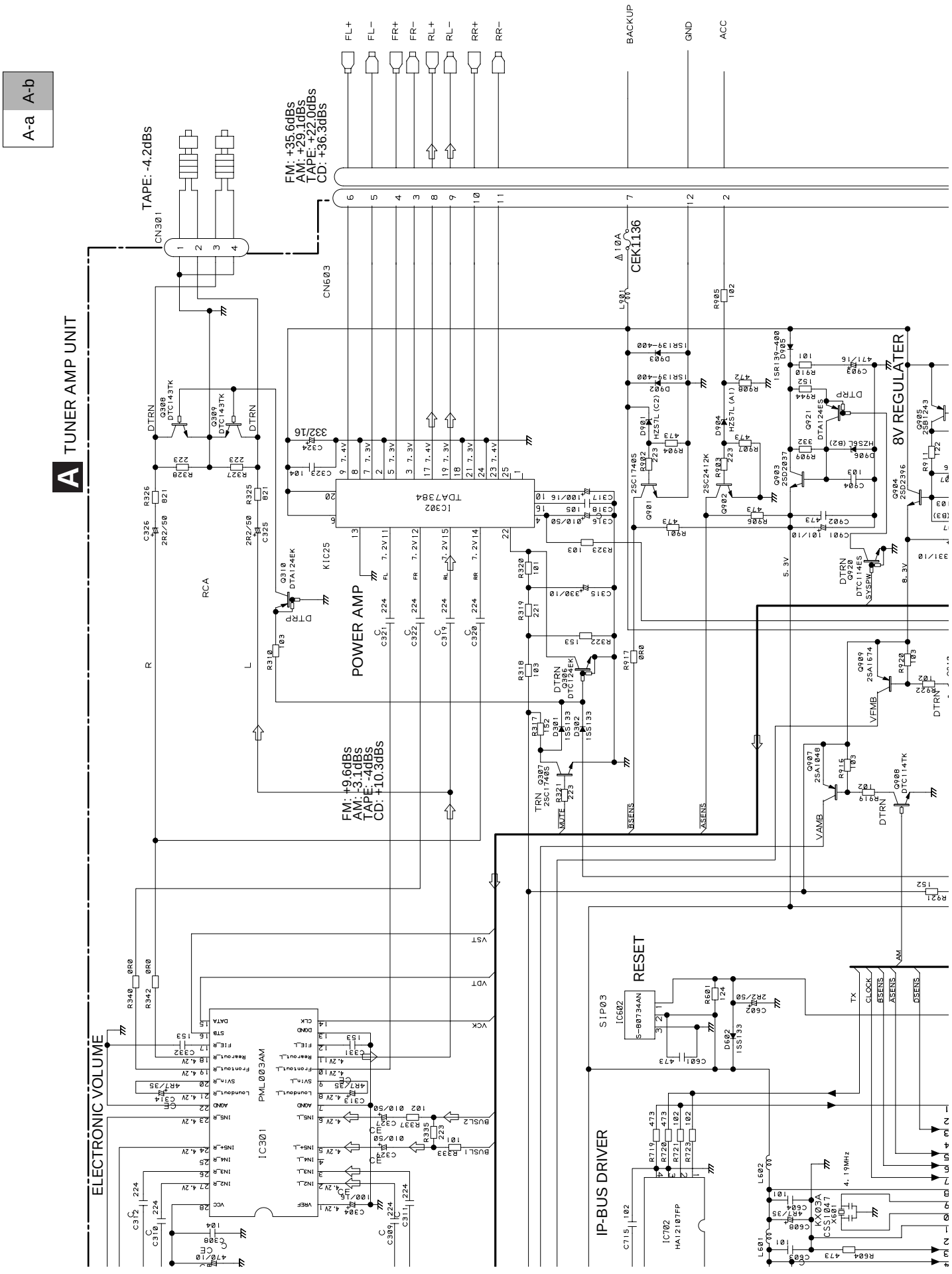
B

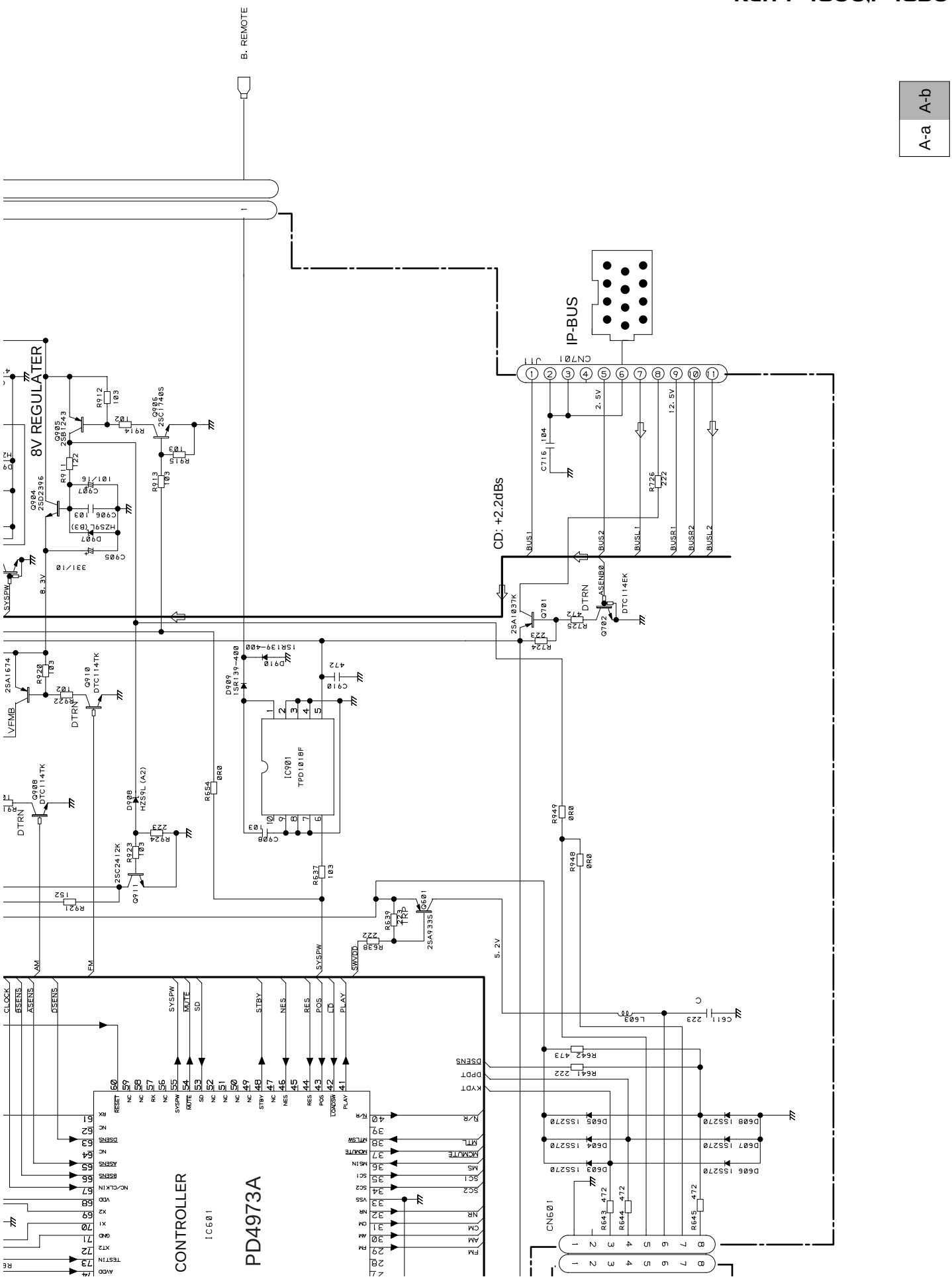
C

D


A-b
A-a
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022
NOTE:
Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
FM: -15.5dBs
AM: -22dBs
R ch
L ch
CN402
TUN401
FM/AM TUNER UNIT
IC501
PM2006
UC model
ES model
510:ES model
331:UC model
Q401
2SC2414K
Q505
DTA124EK
Q506
DTC114EK
D401
1SS133
BUSR1
BUSR2
BUS1
BUS2
LOUT
ROUT
SD
SYSPW
PDI
PCK
PDO
PCE
CLOCK
ST
AMSL
FMSL

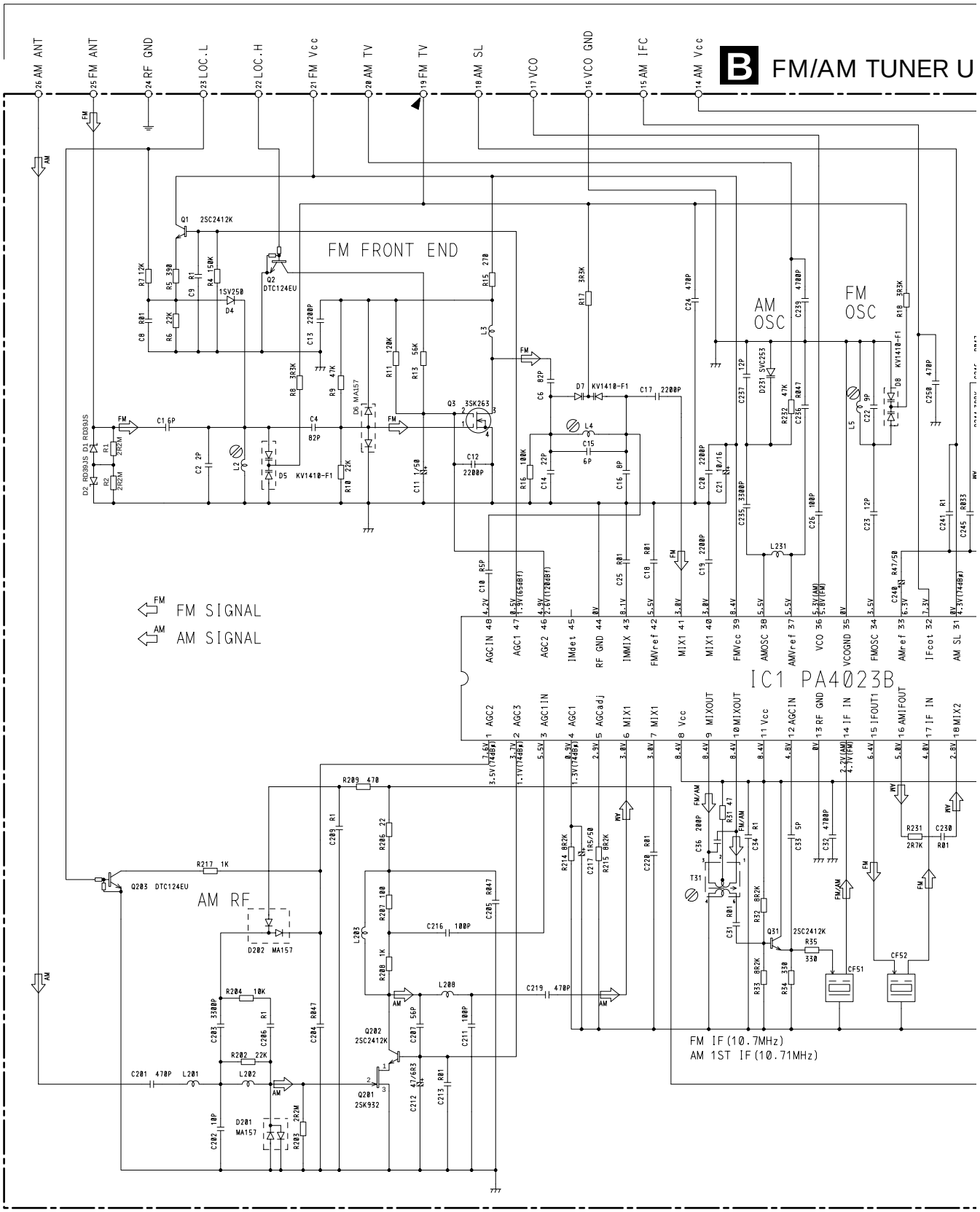

SYSTEM
KEYBOARD UNIT
CN1901
DECK UNIT
CN602
TAPE: -9dBs
For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:
Ex. *Resistors
Code Practical value
123 12k ohms
103 10k ohms
*Capacitors
Code Practical value
103 10kpF(0.01uF)
101/10 100uF/10V

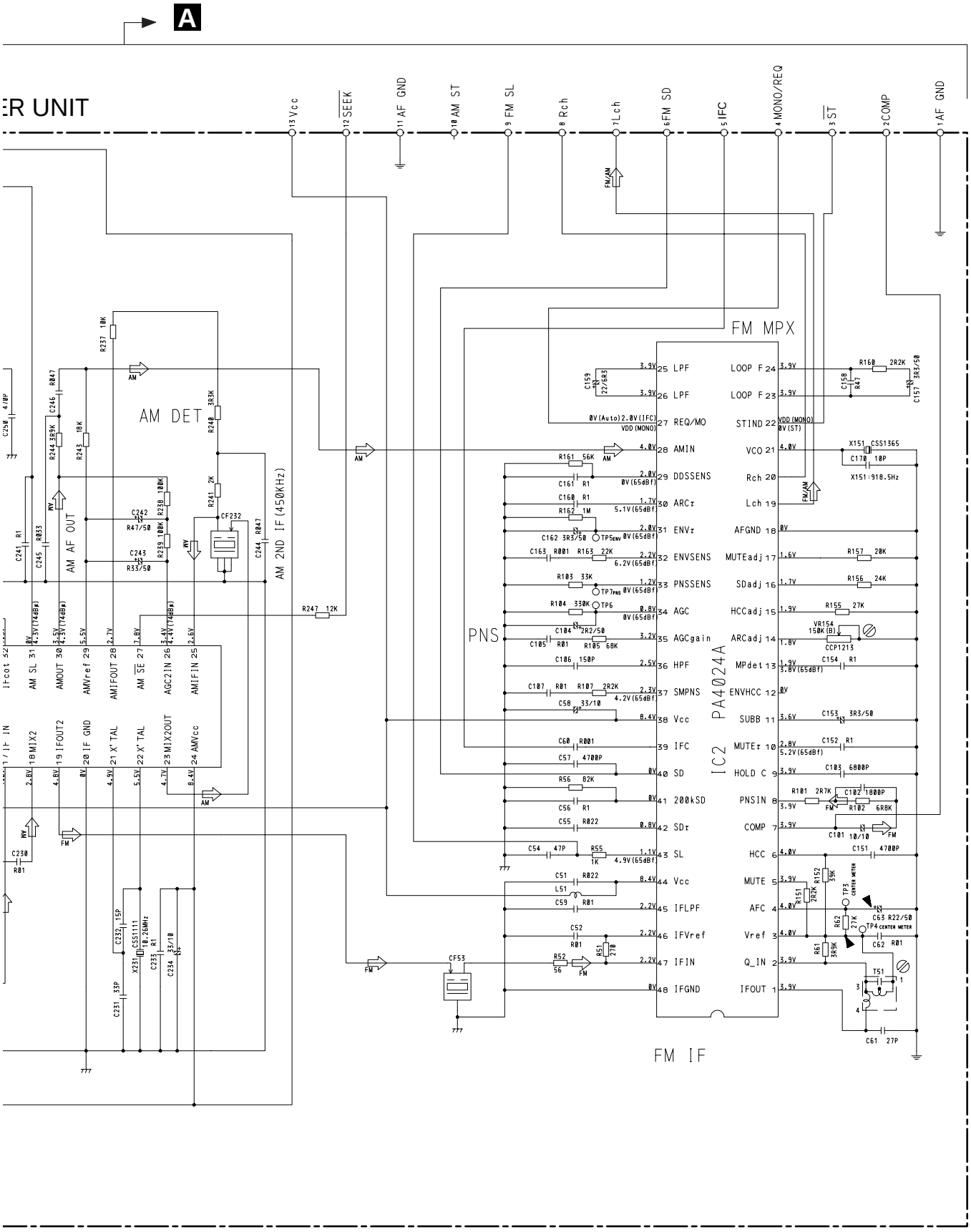

A-a A-b
A TUNER AMP UNIT
FL+ FL− FR+ FR− RL+ RL− RR+ RR−
BACKUP GND ACC
FM: +35.6dBs
AM: +29.1dBs
TAPE: +22.0dBs
CD: +36.3dBs
TAPE: -4.2dBs
CN301
CN603
CEK1136
IC302 TDA7384
POWER AMP
RCA
8V REGULATOR
ELECTRONIC VOLUME
IC301 PML003AM
RESET
IC602 S-80734AN
IP-BUS DRIVER
IC702 HA12107FP
FM: +9.6dBs
AM: +3.1dBs
TAPE: -4dBs
CD: +10.3dBs
4.19MHz
KX03A
CSS1047
X601
VFMB
VAMB
VST
VDT
VCK
BUSL1
BUSL2
MUTE
ASENS
SYSPW
5.3V
8.3V


B. REMOTE
IP-BUS
CN701
8V REGULATER
CD: +2.2dBs
2.5V
12.5V
BUS1
BUS2
BUSL1
BUSR1
BUSR2
BUSL2
DTRN
ASENB0
VFMB
IC901
TPD1018F
CONTROLLER
IC601
PD4973A
CN601
CLOCK
BSENS
ASENS
DSENS
SYSPW
MUTE
SD
STBY
NES
RES
POS
LD
PLAY
AM
FM
5.2V
SWVDD
DSENS
DPDT
KYDT
R/R
MTL
MCMUTE
MS
SCL
SCL2
NR
CM
AM
FM

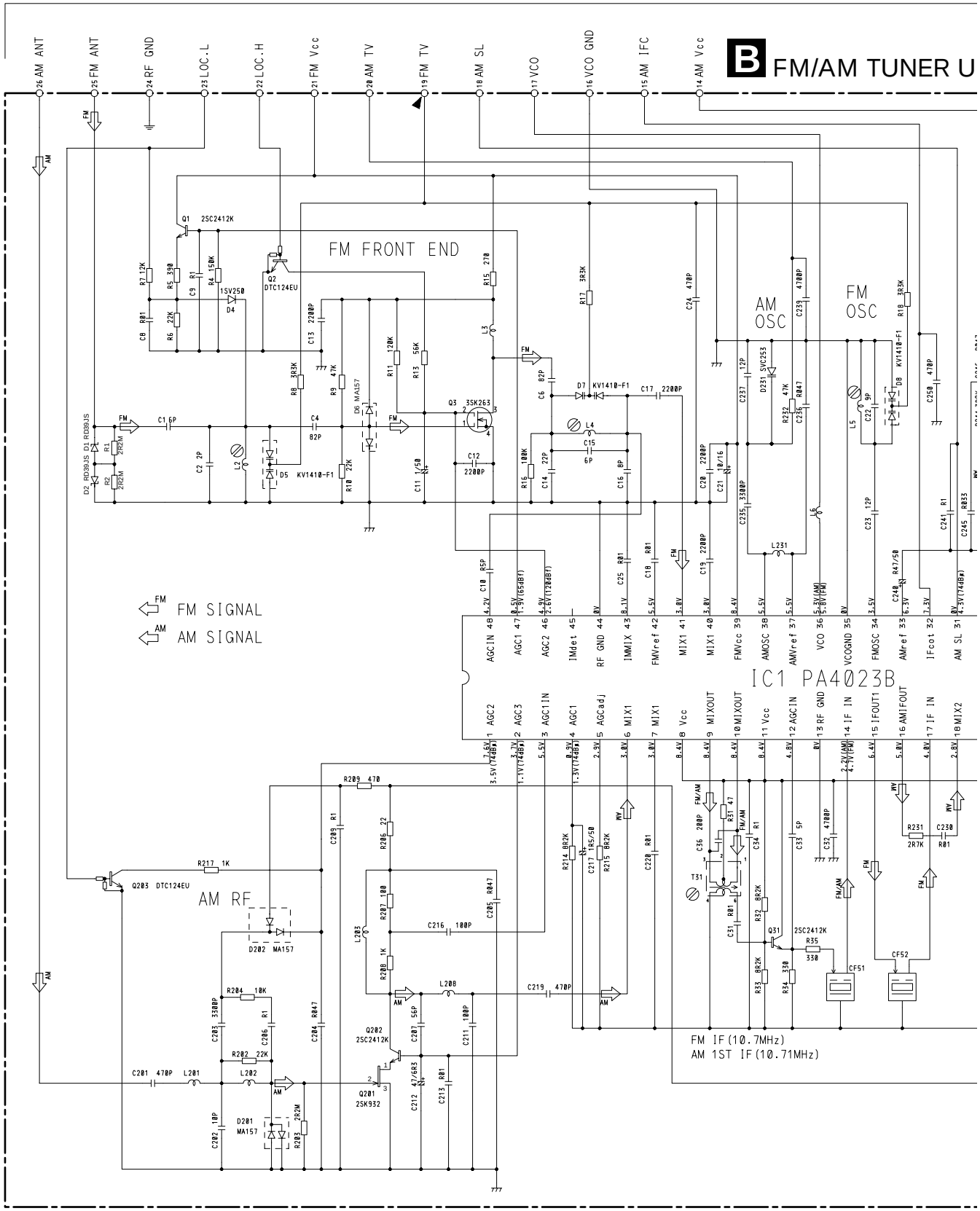
3.2 FM/AM TUNER UNIT

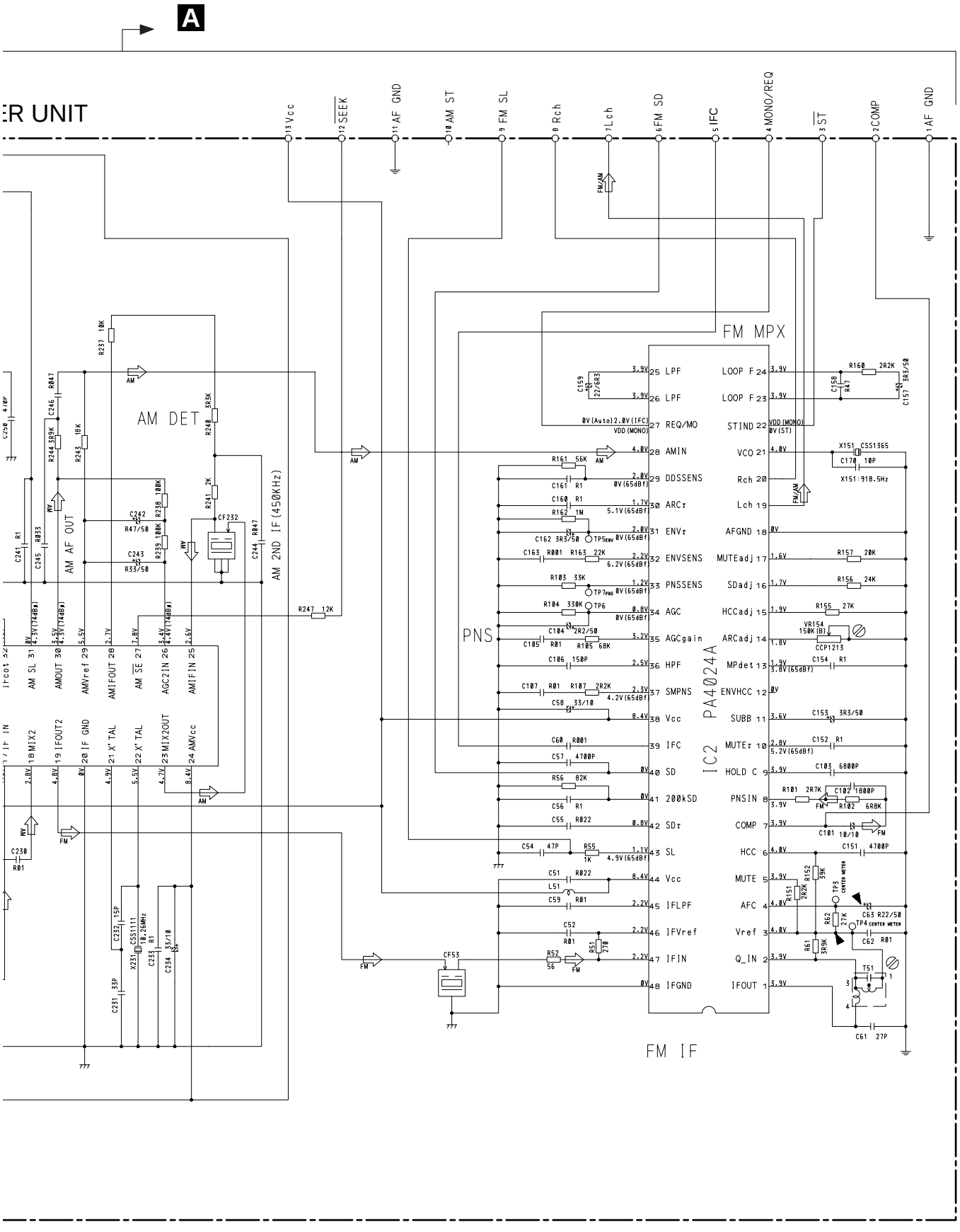
● KEH-P48000/X1M/UC



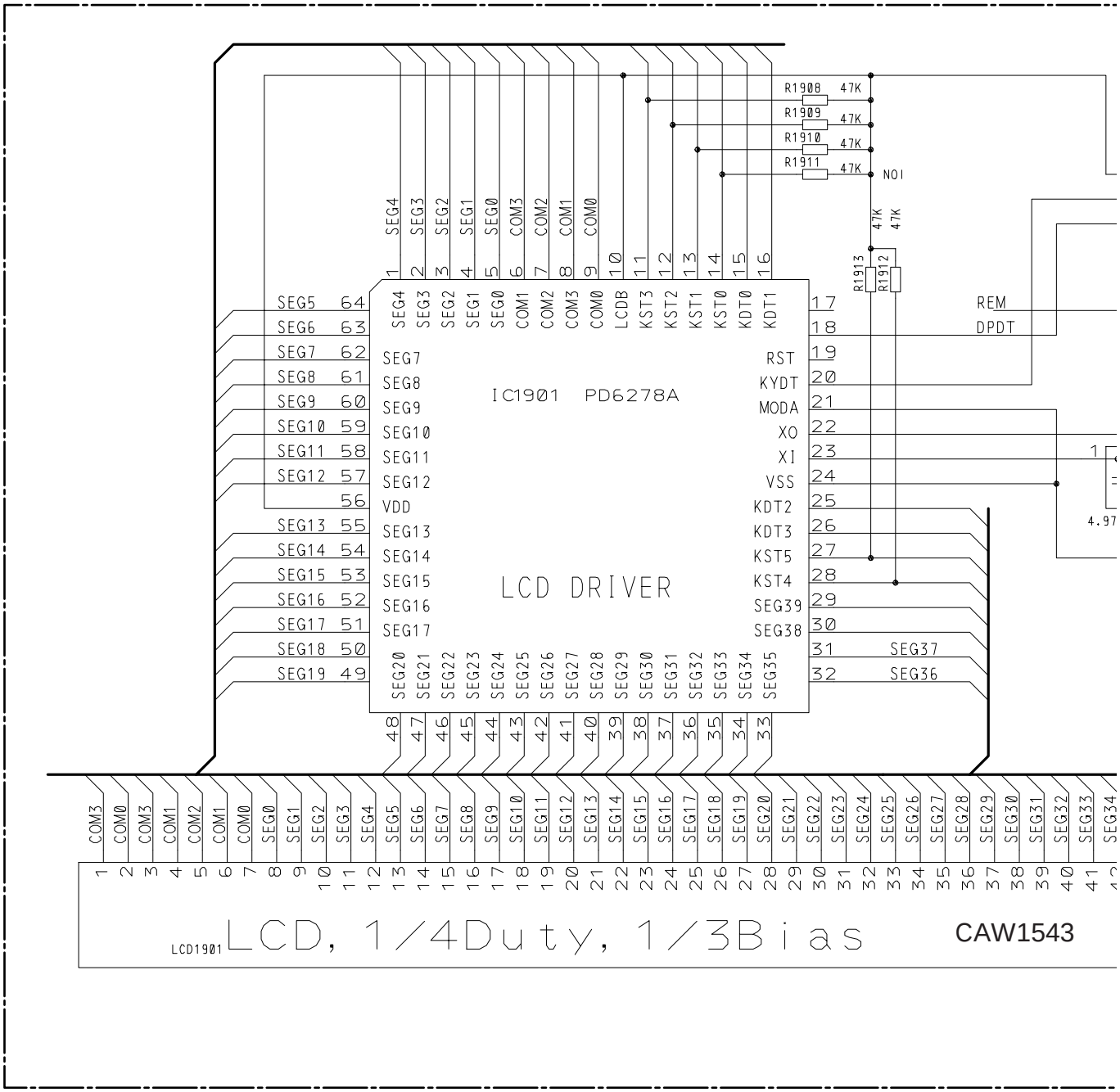

A
ER UNIT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 IFC
4 MONO/REQ
3 ST
2 COMP
1 AF GND
FM MPX
AM DET
AM AF OUT
AM 2ND IF (450KHz)
PNS
IC2 PA4024A
FM IF
25 LPF
26 LPF
27 REQ/MO
28 AMIN
29 DDSSENS
30 ARCτ
31 ENVτ
32 ENVSENS
33 PNSSENS
34 AGC
35 AGCgain
36 HPF
37 SMPNS
38 Vcc
39 IFC
40 SD
41 200kSD
42 SDτ
43 SL
44 Vcc
45 IFLPF
46 IFVref
47 IFIN
48 IFGND
24 LOOP F
23 LOOP F
22 STIND
21 VCO
20 Rch
19 Lch
18 AFGND
17 MUTEadj
16 SDadj
15 HCCadj
14 ARCadj
13 MPdet
12 ENVHCC
11 SUBB
10 MUTEτ
9 HOLD C
8 PNSIN
7 COMP
6 HCC
5 MUTE
4 AFC
3 Vref
2 Q_IN
1 IFOUT
X151 CSS1365
X151:918.5Hz
CF232
CF53
X231 CSS1111 10.26MHz
TP3 CENTER METER
TP4 CENTER METER
VR154 150K(B)
CCP1213
T51

● KEH-P4850/X1M/ES

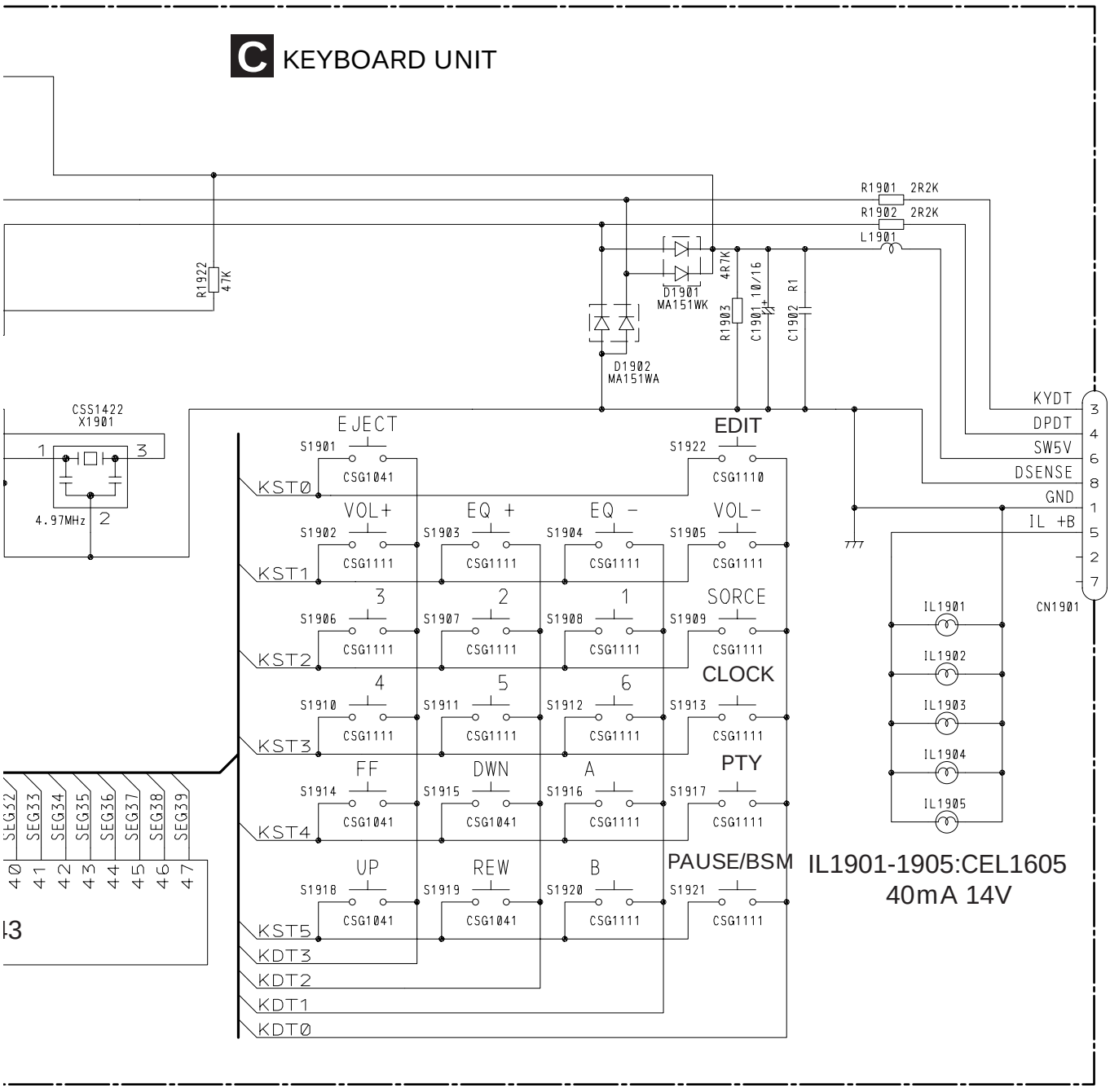



A
ER UNIT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 IFC
4 MONO/REQ
3 ST
2 COMP
1 AF GND
AM DET
AM AF OUT
AM 2ND IF (450KHz)
FM MPX
PNS
IC2 PA4024A
FM IF
LPF
REQ/MO
AMIN
DDSSENS
ARCτ
ENVτ
ENVSENS
PNSSENS
AGC
AGCgain
HPF
SMPNS
Vcc
IFC
SD
200kSD
SDτ
SL
IFLPF
IFVref
IFIN
IFGND
LOOP F
STIND
VCO
Rch
Lch
AFGND
MUTEadj
SDadj
HCCadj
ARCadj
MPdet
ENVHCC
SUBB
MUTEτ
HOLD C
PNSIN
COMP
HCC
MUTE
AFC
Vref
Q_IN
IFOUT
AM SL
AMOUT
AMVref
AMIFOUT
AM SE
AGC2IN
AMIFIN
IFMIX2
IFOUT2
IF GND
X'TAL
X'TAL
MIX2OUT
AMVcc
B
17

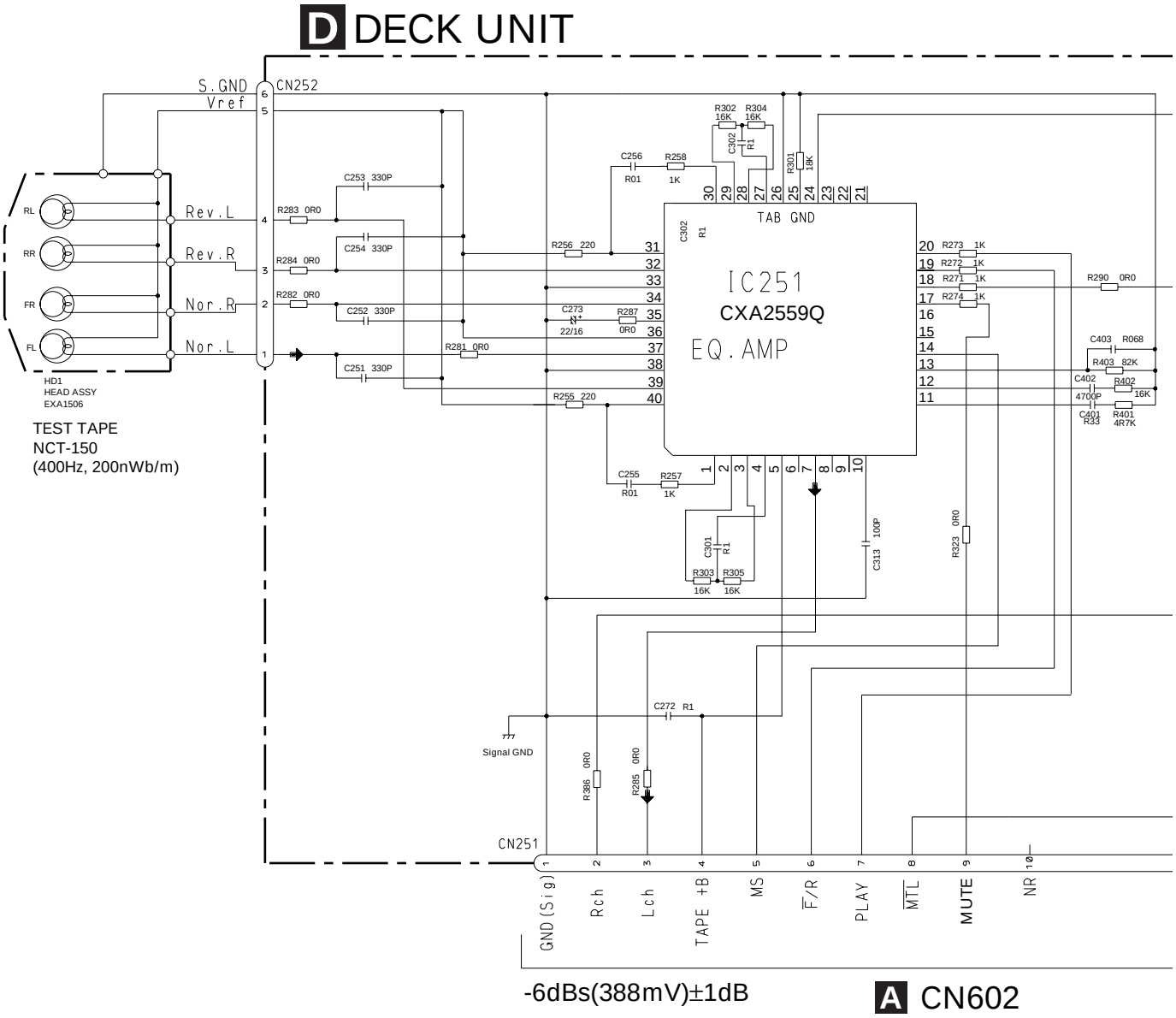
3.3 KEYBOARD UNIT

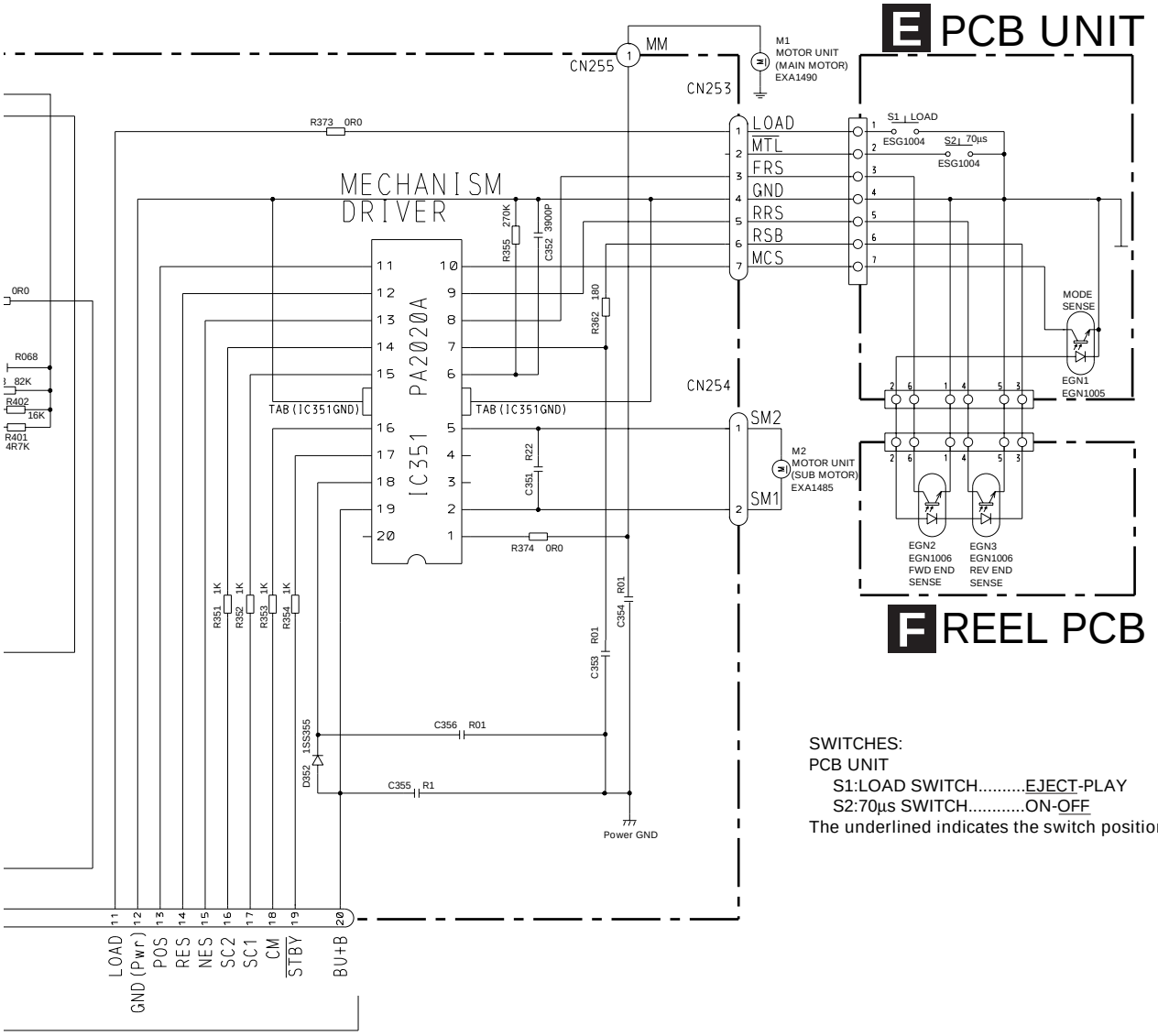


C KEYBOARD UNIT



3.4 CASSETTE MECHANISM MODULE





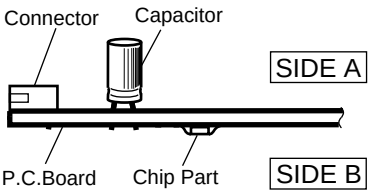
SWITCHES:
PCB UNIT
S1:LOAD SWITCH.....EJECT-PLAY
S2:70µs SWITCH.....ON-OFF
The underlined indicates the switch position.

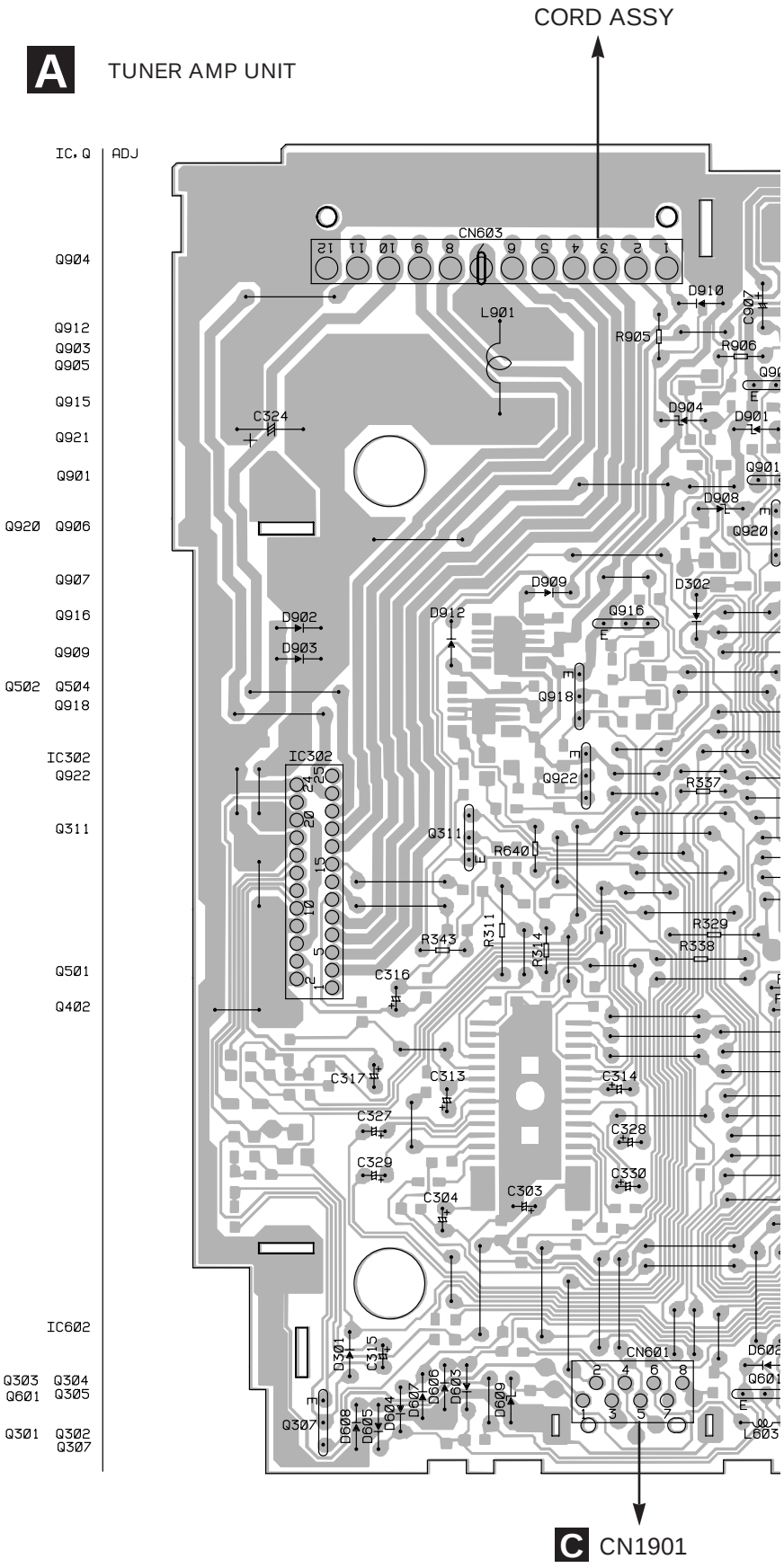
4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

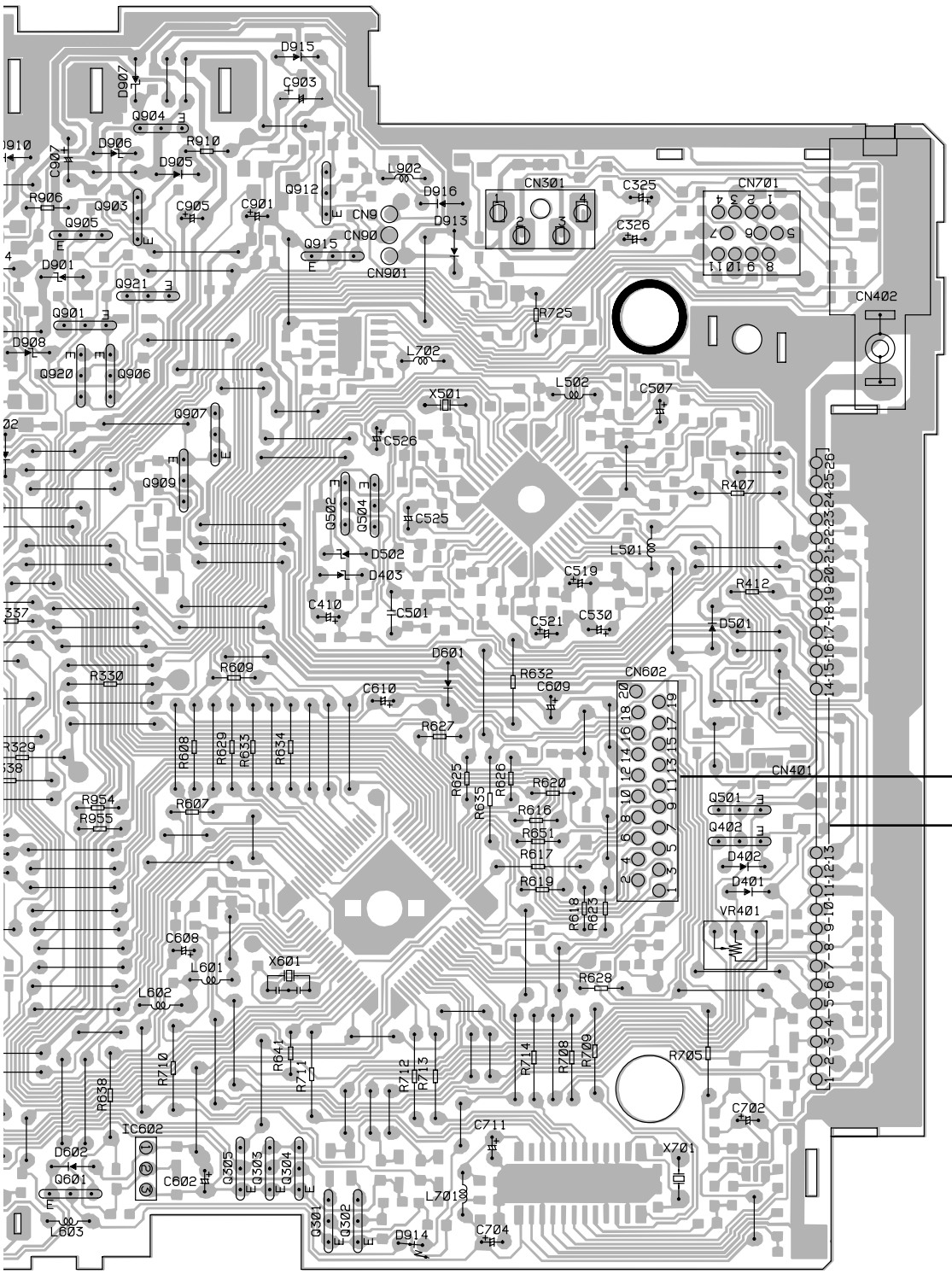
NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams

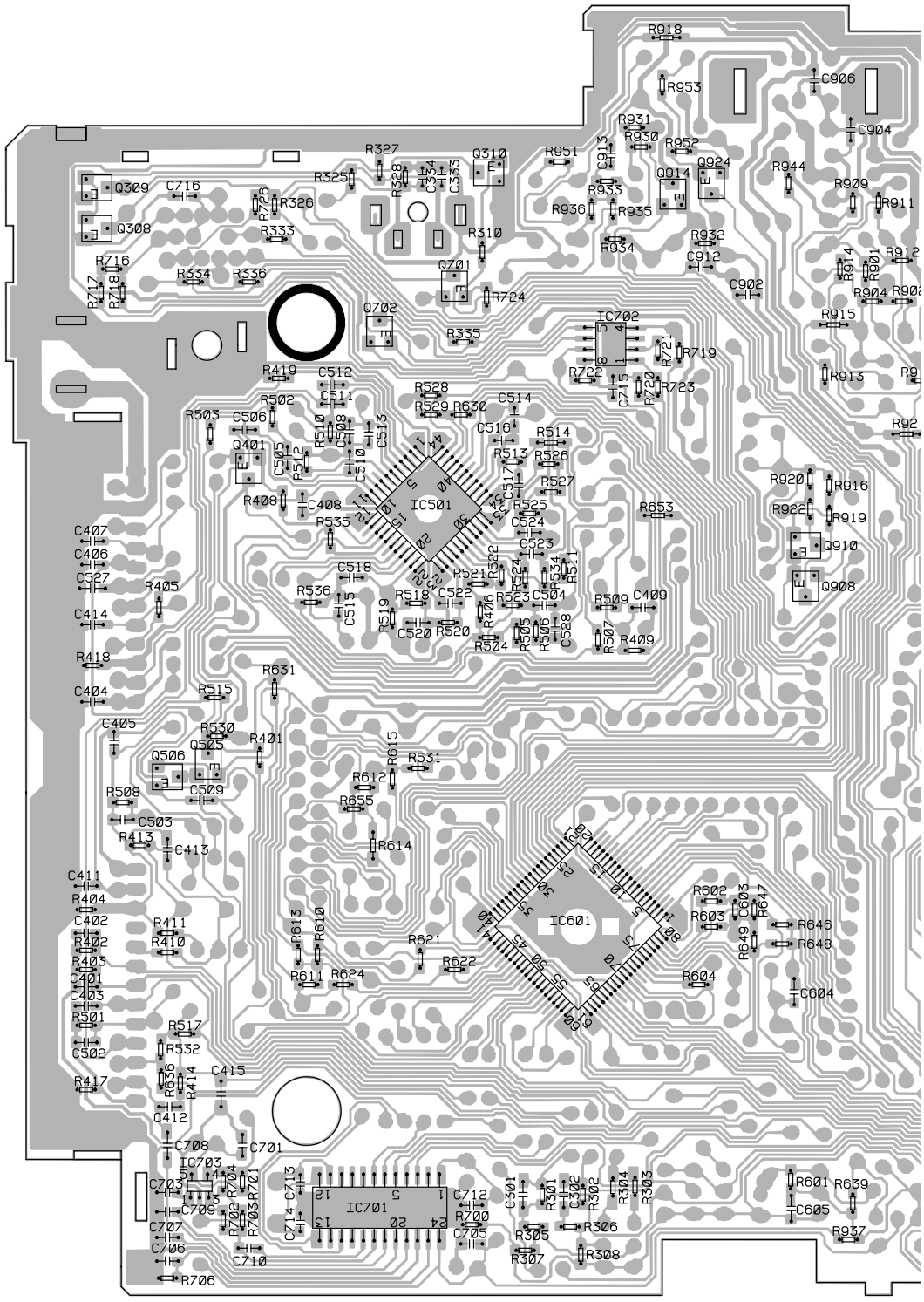




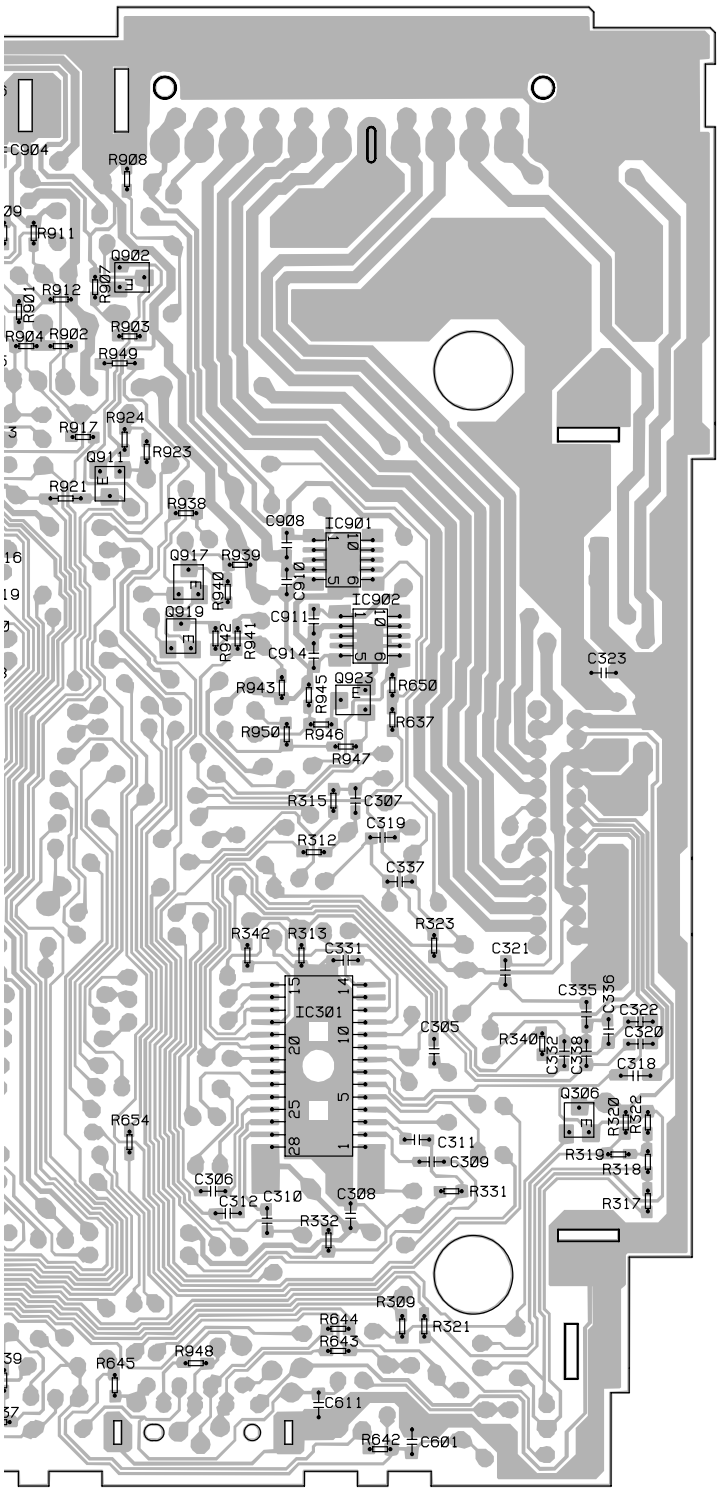
SIDE A


D915
C903
Q904
D907
D906
R910
D905
C907
R906
Q903
C905
C901
Q912
L902
D916
CN301
C325
CN701
Q905
CN9
CN90
D913
C326
Q915
CN901
D901
Q921
Q901
R725
CN402
D908
Q920
Q906
L702
X501
L502
C507
Q907
C526
Q909
Q502
Q504
C525
R407
D502
D403
L501
C519
C410
C501
R412
C521
C530
D501
D601
R609
R632
C609
CN602
R330
C610
R627
R608
R629
R633
R634
R625
R635
R626
R620
CN401
R954
R955
R607
R616
R651
Q501
Q402
R617
D402
R619
D401
R618
R623
VR401
C608
L601
X601
R628
L602
R710
R641
R711
R712
R713
R714
R708
R709
R705
R638
C702
IC602
C711
D602
C602
Q305
Q303
Q304
X701
Q601
L703
Q301
Q302
D914
C704
L701
D CN251
B

A TUNER AMP UNIT



SIDE B



IC, Q

Q310
Q914 Q924
Q309

Q308 Q902

Q701

Q702
IC702

Q911

Q401
IC901
Q917
IC501
IC902
Q919
Q910

Q908 Q923

Q505
Q506

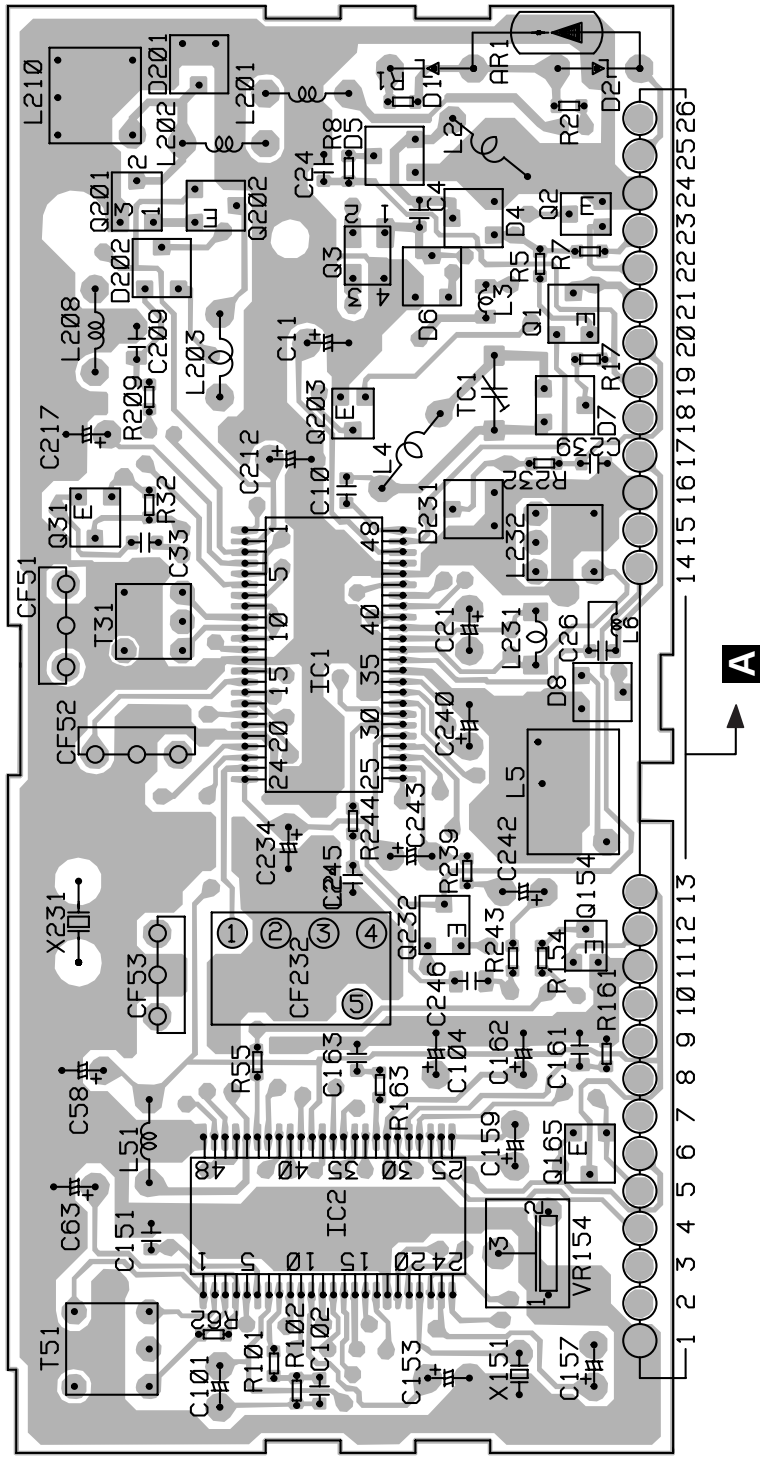
IC301

IC601
Q306

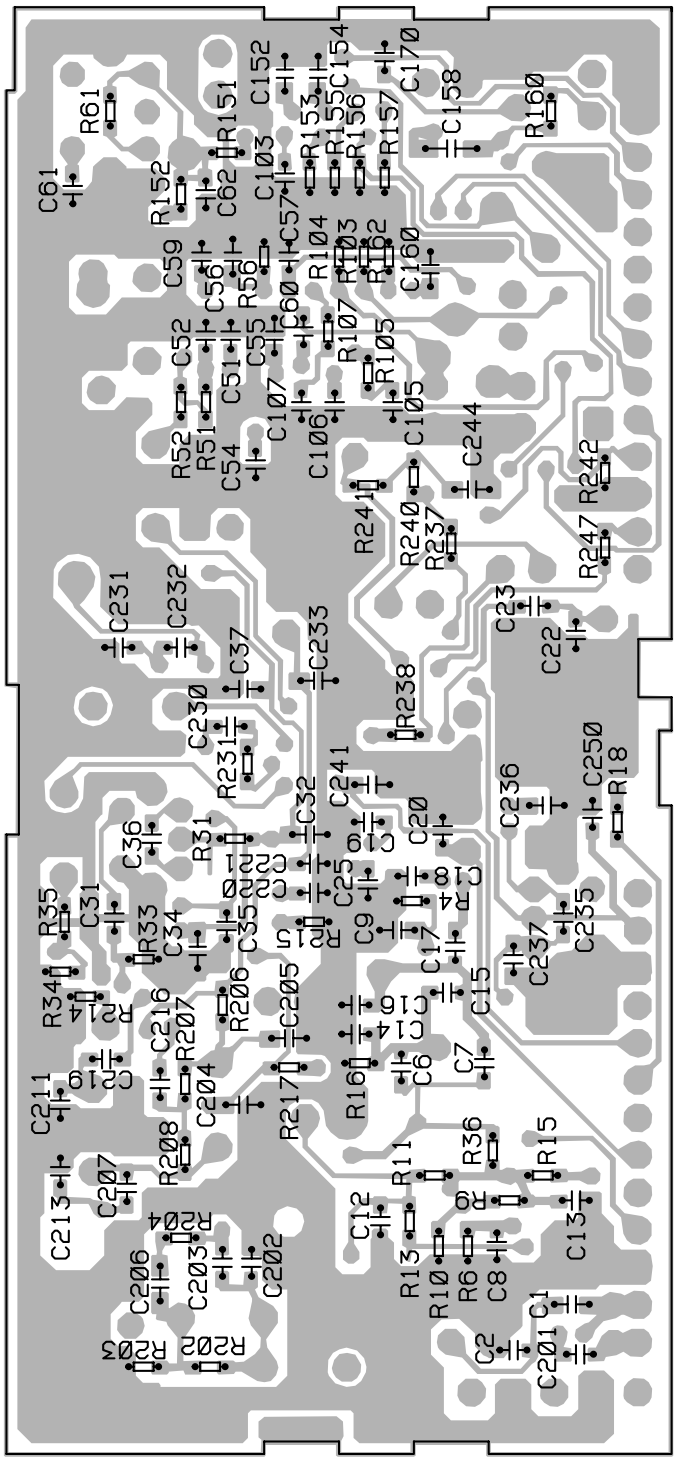
IC703

IC701

4.2 FM/AM TUNER UNIT

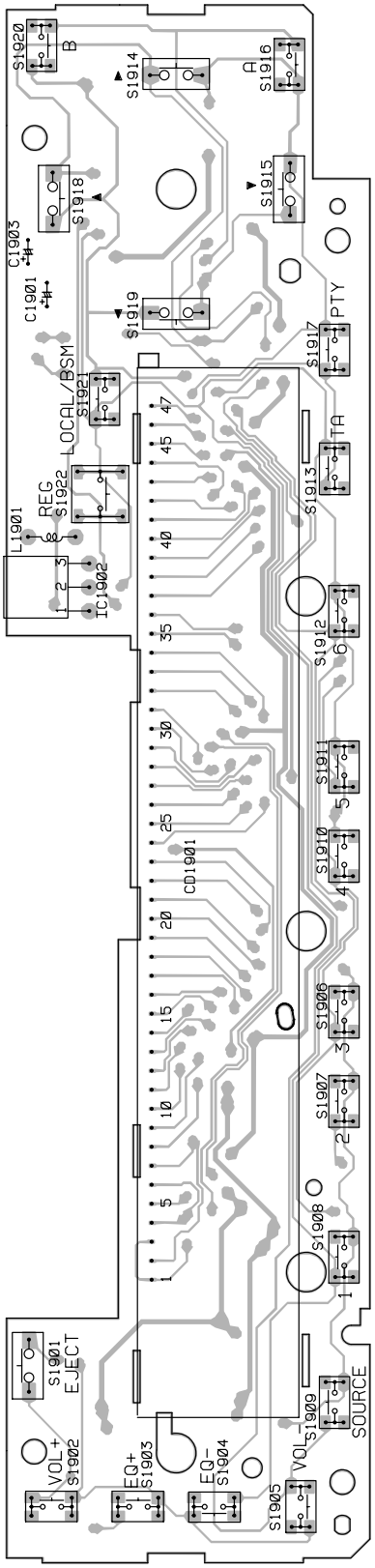


SIDE B

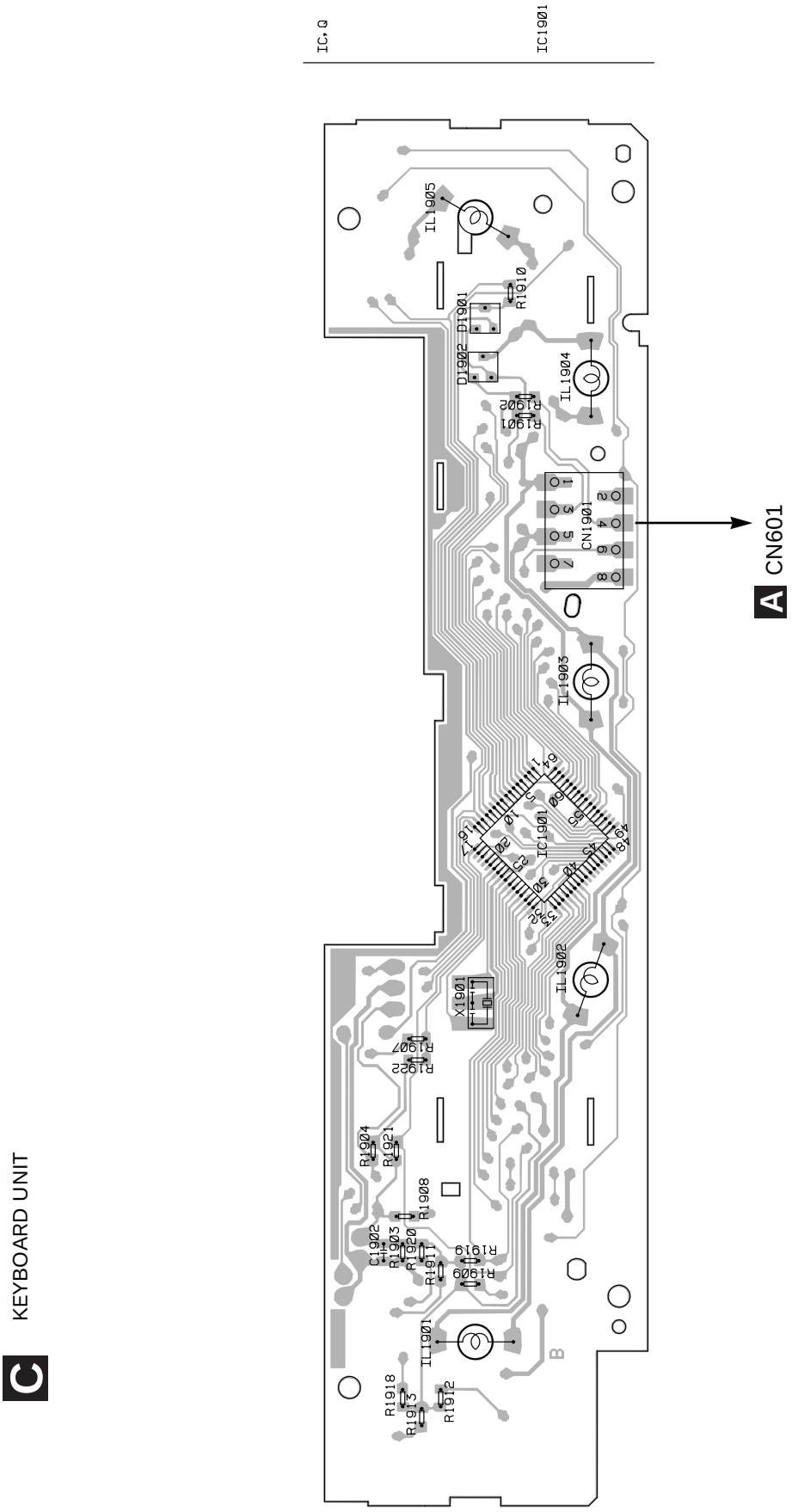


B FM/AM TUNER UNIT

4.3 KEYBOARD UNIT



SIDE B

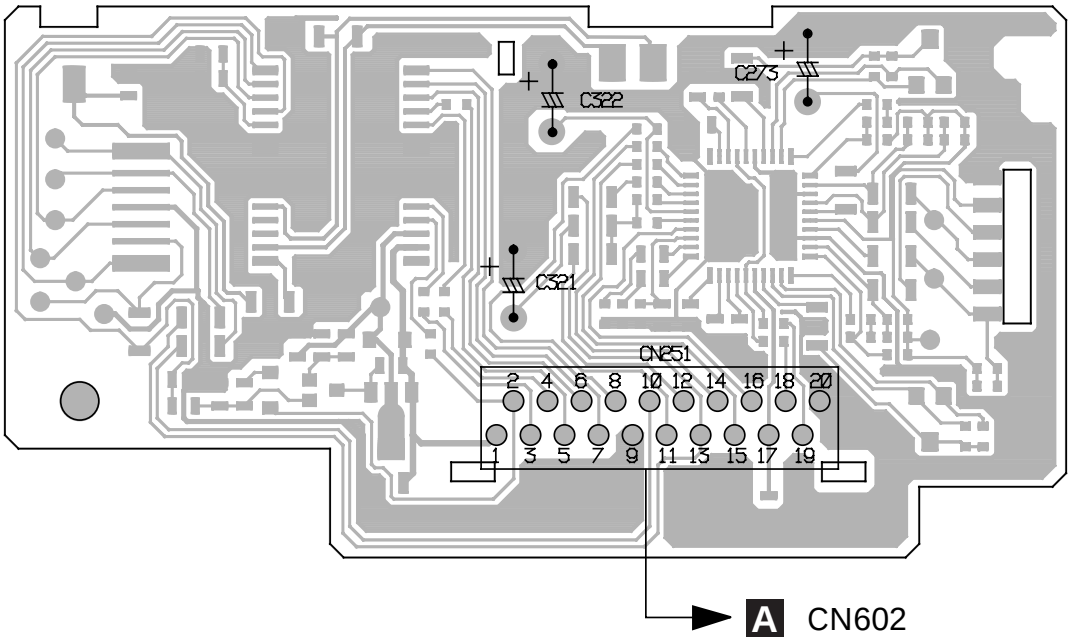


C KEYBOARD UNIT

4.4 CASSETTE MECHANISM MODULE

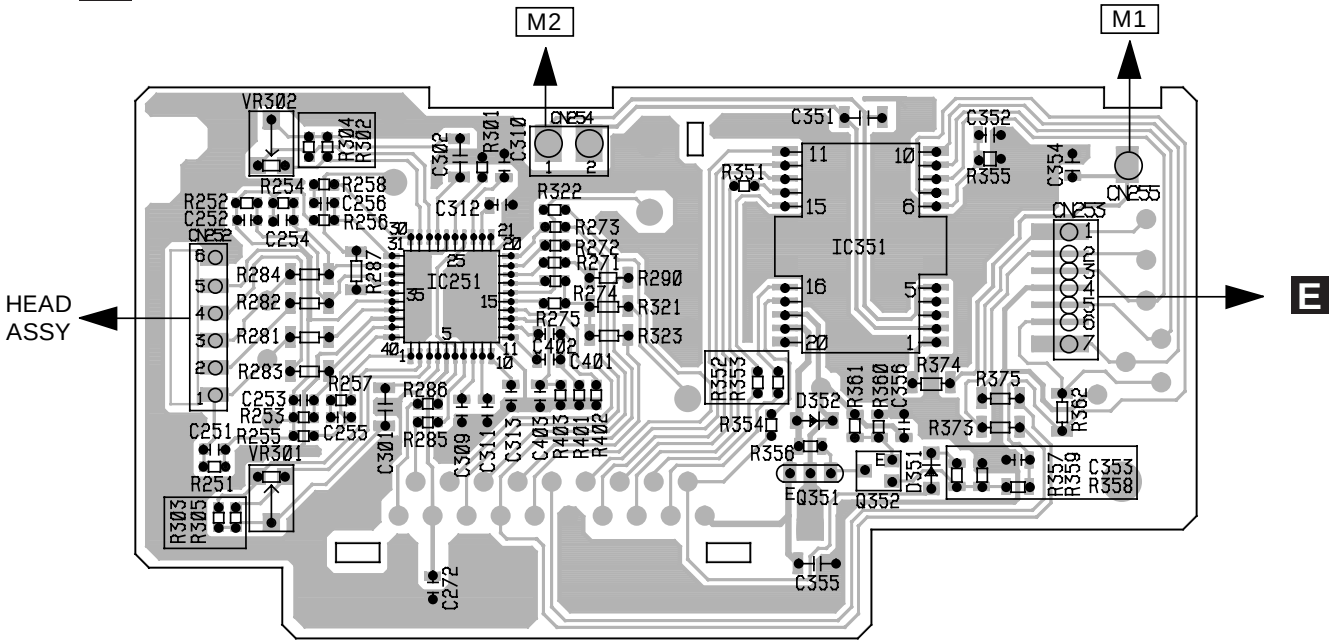
D DECK UNIT

SIDE A

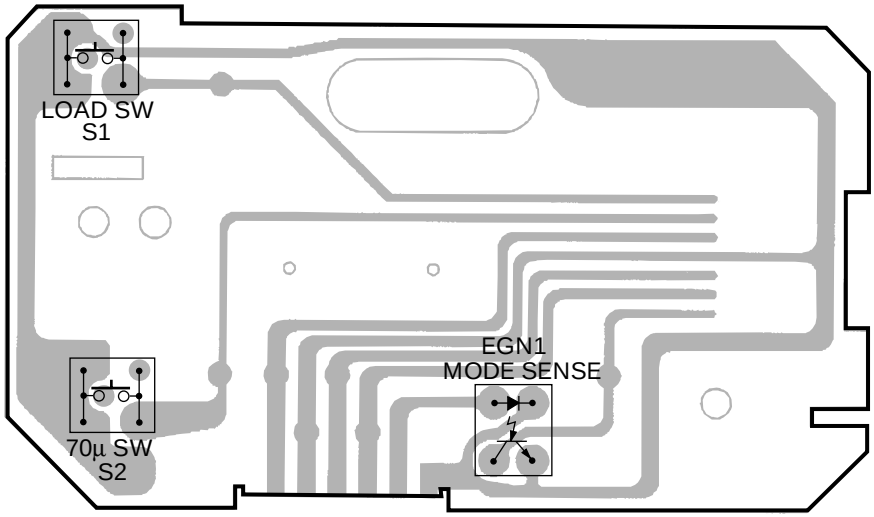


D DECK UNIT

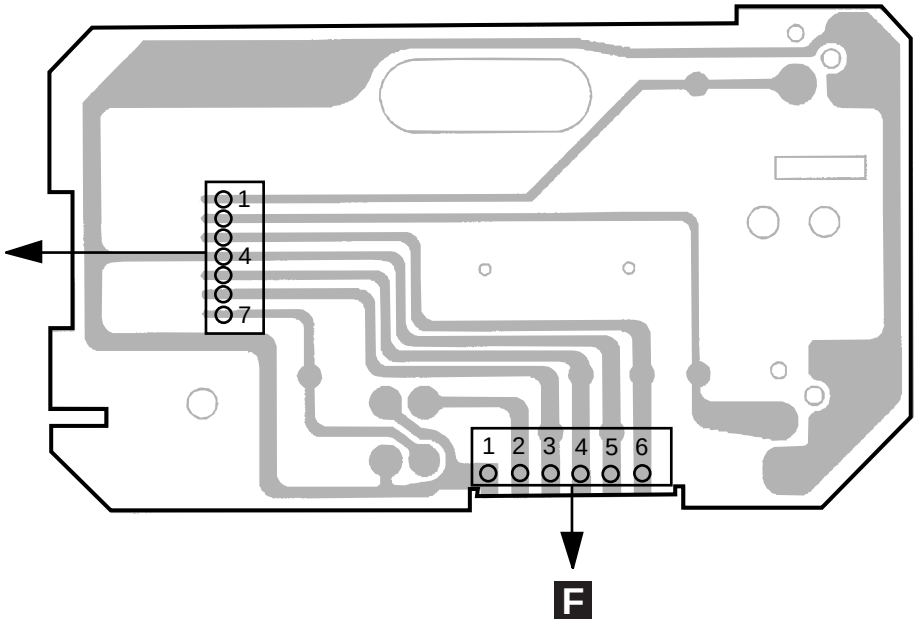
SIDE B



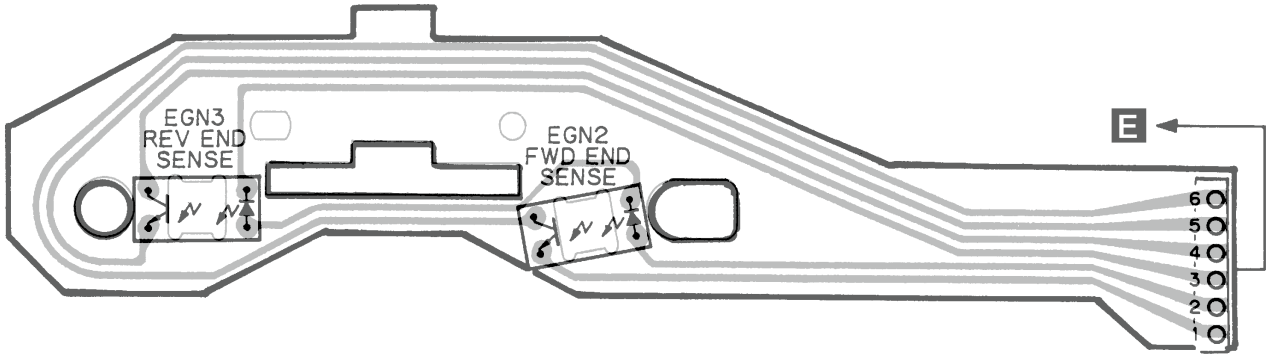
E PCB UNIT



E PCB UNIT



F REEL PCB



5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

A

Unit Number : CWM6248(KEH-P4800/X1M/UC)
CWM6249(KEH-P4850/X1M/ES)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
D	607	Diode	1SS270
D	608	Diode	1SS270
D	901	Diode	HZS7L(C2)
D	902	Diode	1SR139-400
D	903	Diode	1SR139-400
D	904	Diode	HZS7L(A1)
D	905	Diode	1SR139-400
D	906	Diode	HZS6L(B2)
D	907	Diode	HZS9L(B3)
D	908	Diode	HZS9L(A2)
D	909	Diode	1SR139-400
D	910	Diode	1SR139-400
IC	301	IC	PML003AM
IC	302	IC	TDA7384
IC	501	IC	PM2006A
IC	601	IC	PD4973A
IC	602	IC	S-80734AN
IC	702	IC	CA0008AM
IC	901	IC	TPD1018F
Q	306	Transistor	DTC124EK
Q	307	Transistor	2SC1740S
Q	308	Transistor	DTC143TK
Q	309	Transistor	DTC143TK
Q	310	Transistor	DTA124EK
Q	401	Transistor	2SC2412K
Q	505	Transistor	DTA124EK
Q	506	Transistor	DTC114EK
Q	601	Transistor	2SA933S
Q	701	Transistor	2SA1037K
Q	702	Transistor	DTC114EK
Q	901	Transistor	2SC1740S
Q	902	Transistor	2SC2412K
Q	903	Transistor	2SD2037
Q	904	Transistor	2SD2396
Q	905	Transistor	2SB1243
Q	906	Transistor	2SC1740S
Q	907	Transistor	2SA1048
Q	908	Transistor	DTC114TK
Q	909	Transistor	2SA1674
Q	910	Transistor	DTC114TK
Q	911	Transistor	2SC2412K
Q	920	Transistor	DTC114ES
Q	921	Transistor	DTA124ES
D	301	Diode	1SS270
D	302	Diode	1SS270
D	401	Diode	1SS270
D	402	Diode	1SS270
D	601	Diode	1SS270
D	602	Diode	1SS270
D	603	Diode	1SS270

=====Circuit Symbol and No.		===Part Name	Part No.
D	604	Diode	1SS270
D	605	Diode	1SS270
D	606	Diode	1SS270
L	501	Ferri-Inductor	LAU2R2K
L	502	Ferri-Inductor	LAU2R2K
L	601	Ferri-Inductor	LAU2R2K
L	602	Ferri-Inductor	LAU2R2K
L	603	Ferri-Inductor	LAU2R2K
L	702	Ferri-Inductor	LAU2R2K
L	901	Choke Coil 600µH	CTH1168
X	501	Crystal Resonator 7.200MHz	CSS1379
X	601	Ceramic Resonator 4.194MHz	CSS1047

RESISTORS

R	301		RS1/10S0R0J
R	302		RS1/10S0R0J
R	310		RS1/10S103J
R	317		RS1/10S152J
R	318		RS1/10S103J
R	319		RS1/10S221J
R	320		RS1/10S101J
R	321		RS1/10S223J
R	322		RS1/10S153J
R	323		RS1/10S103J
R	325		RS1/10S821J
R	326		RS1/10S821J
R	327		RS1/10S223J
R	328		RS1/10S223J
R	333		RS1/10S101J
R	334		RS1/10S101J
R	335		RS1/10S223J
R	336		RS1/10S223J
R	337		RD1/4PU102J
R	338		RD1/4PU102J
R	340		RS1/10S0R0J
R	342		RS1/10S0R0J
R	401	(ES model)	RS1/10S182J
R	402		RS1/10S162J
R	403		RS1/10S162J
R	404		RS1/10S0R0J
R	405	(UC model)	RS1/10S331J
R	405	(ES model)	RS1/10S510J
R	406		RS1/10S102J
R	407		RD1/4PU222J
R	408		RS1/10S222J
R	410		RS1/10S102J
R	412		RD1/4PU103J
R	413		RS1/10S393J
R	417		RS1/10S0R0J
R	418		RS1/10S0R0J
R	419		RS1/10S0R0J
R	502		RS1/10S102J
R	503		RS1/10S222J
R	506		RS1/10S182J

=====Circuit Symbol and No.		===Part Name	Part No.
R	511		RS1/10S0R0J
R	512	(UC model)	RS1/10S0R0J
R	513		RS1/10S102J
R	514		RS1/8S0R0J
R	515		RS1/10S562J
R	517		RS1/10S473J
R	518		RS1/10S152J
R	519		RS1/10S472J
R	520		RS1/10S222J
R	521		RS1/10S822J
R	522		RS1/10S392J
R	523		RS1/10S0R0J
R	524		RS1/10S562J
R	525		RS1/10S222J
R	526		RS1/10S392J
R	527		RS1/10S392J
R	528		RS1/10S472J
R	529		RS1/10S473J
R	531		RS1/10S104J
R	532		RS1/10S473J
R	535		RD1/10S102J
R	536		RS1/10S473J
R	601		RS1/10S124J
R	604		RS1/10S473J
R	607		RD1/4PU102J
R	610		RS1/10S473J
R	611		RS1/10S473J
R	612		RS1/10S473J
R	613		RS1/10S473J
R	614		RS1/8S103J
R	615		RS1/10S392J
R	616		RD1/4PU222J
R	617		RD1/4PU223J
R	618		RD1/4PU222J
R	619		RD1/4PU222J
R	621		RS1/10S222J
R	622		RS1/10S222J
R	623		RD1/4PU222J
R	624		RS1/10S222J
R	625		RD1/4PU222J
R	626		RD1/4PU222J
R	627		RD1/4PU222J
R	628		RD1/4PU222J
R	629		RD1/4PU681J
R	630		RS1/10S681J
R	633		RD1/4PU681J
R	634		RD1/4PU681J
R	635		RD1/4PU222J
R	636		RS1/10S472J
R	637		RS1/10S103J
R	638		RD1/4PU222J
R	639		RS1/10S223J
R	641		RD1/4PU222J
R	642		RS1/10S473J
R	643		RS1/10S472J
R	644		RS1/10S472J
R	645		RS1/10S472J
R	646		RS1/10S103J
R	647		RS1/10S103J
R	648	(ES model)	RS1/10S183J
R	649	(UC model)	RS1/10S102J
R	649	(ES model)	RS1/10S103J
R	651		RD1/4PU222J
R	653		RS1/8S0R0J
R	654		RS1/10S0R0J

=====Circuit Symbol and No.		===Part Name	Part No.
R	655		RS1/10S473J
R	716		RS1/10S620J
R	717		RS1/10S101J
R	718		RS1/10S101J
R	719		RS1/10S473J
R	720		RS1/10S473J
R	721		RS1/10S102J
R	722		RS1/10S102J
R	723		RS1/10S102J
R	724		RS1/10S223J
R	725		RD1/4PU472J
R	726		RS1/10S222J
R	901		RS1/10S473J
R	902		RS1/10S223J
R	903		RS1/10S223J
R	904		RS1/10S473J
R	905		RD1/4PU102J
R	906		RD1/4PU473J
R	907		RS1/10S473J
R	908		RS1/10S472J
R	909		RS1/10S332J
R	910		RD1/4PU101J
R	911		RS1/10S122J
R	912		RS1/10S103J
R	913		RS1/10S103J
R	914		RS1/10S102J
R	915		RS1/10S103J
R	916		RS1/10S103J
R	917		RS1/10S0R0J
R	919		RS1/10S102J
R	920		RS1/10S103J
R	921		RS1/10S152J
R	922		RS1/10S102J
R	923		RS1/10S103J
R	924		RS1/10S223J
R	944		RS1/10S152J
R	948		RS1/10S0R0J
R	949		RS1/8S0R0J

CAPACITORS

C	303		CEJA470M10
C	304		CEJA100M16
C	308		CKSQYB104K50
C	309		CKSQYB224K16
C	310		CKSQYB224K16
C	311		CKSQYB224K16
C	312		CKSQYB224K16
C	313		CEJA4R7M35
C	314		CEJA4R7M35
C	315		CEJA330M10
C	316		CEJA1R0M50
C	317		CEJA100M16
C	318		CKSYB105K16
C	319		CKSQYB224K16
C	320		CKSQYB224K16
C	321		CKSQYB224K16
C	322		CKSQYB224K16
C	323		CKSQYB104K50
C	324	3300µF/16V	CCH1169
C	325		CEJA2R2M50
C	326		CEJA2R2M50
C	327		CEJA1R0M50
C	328		CEJA1R0M50
C	329		CEJA1R0M50
C	330		CEJA1R0M50

=====Circuit Symbol and No.		===Part Name	Part No.
C	331		CKSQYB153K50
C	332		CKSQYB153K50
C	401		CKSQYB473K50
C	402		CKSQYB473K50
C	403		CKSQYB223K25
C	407		CKSQYB223K50
C	408		CCSQSL101J50
C	411		CCSQSL101J50
C	413		CKSQYB223K50
C	414		CKSQYB103K50
C	504		CKSQYB103K50
C	505		CKSQYB103K50
C	506	(ES model)	CKSQYB103K50
C	507		CEJA220M6R3
C	508		CKSQYB102K50
C	510		CCSQSL101J50
C	511		CKSQYB103K50
C	512		CKSQYB103K50
C	513		CKSQYB103K50
C	514		CCSQCH150J50
C	515		CKSQYB102K50
C	516		CCSQCH150J50
C	518		CKSQYB103K50
C	519		CEJA220M6R3
C	520		CKSQYB103K50
C	521		CEJA220M6R3
C	522		CKSQYB104K50
C	524		CKSQYB103K50
C	525	4.7µF/16V	CCH1250
C	527		CKLSR473K16
C	528		CKSQYB154K16
C	530		CEJA220M10
C	601		CKSQYB473K50
C	602		CEJA2R2M50
C	603		CCSQCH101J50
C	604		CCSQCH101J50
C	608		CEJA4R7M35
C	609		CEJA100M16
C	610		CEJA220M10
C	611		CKSQYB223K50
C	715		CKSQYB102K50
C	716		CKSQYB104K50
C	901		CEJA101M10
C	902		CKSQYB473K50
C	903	470µF/16V	CCH1183
C	904		CKSQYB103K50
C	905	330µF/10V	CCH1181
C	906		CKSQYB103K50
C	907	100µF/16V	CCH1179
C	908		CKSQYB103K50
C	910		CKSQYB472K50

C Unit Number : CWM6259(KEH-P4800/X1M/UC)
CWM6260(KEH-P4850/X1M/ES)
Unit Name : Keyboard Unit

MISCELLANEOUS

D	1901	Chip Diode	MA151WK
D	1902	Diode	MA151WA
IC	1901	IC	PD6278A
L	1901	Ferri-Inductor	LAU101K
X	1901	Ceramic Resonator 4.97MHz	CSS1422
S	1901	Switch	CSG1041
S	1902	Switch	CSG1111
S	1903	Switch	CSG1111
S	1904	Switch	CSG1111
S	1905	Switch	CSG1111

=====Circuit Symbol and No.		===Part Name	Part No.
S	1906	Switch	CSG1111
S	1907	Switch	CSG1111
S	1908	Switch	CSG1111
S	1909	Switch	CSG1111
S	1910	Switch	CSG1111
S	1911	Switch	CSG1111
S	1912	Switch	CSG1111
S	1913	Switch	CSG1111
S	1914	Switch	CSG1041
S	1915	Switch	CSG1041
S	1916	Switch	CSG1111
S	1917	Switch	CSG1111
S	1918	Switch	CSG1041
S	1919	Switch	CSG1041
S	1920	Switch	CSG1111
S	1921	Switch	CSG1111
S	1922	Switch	CSG1110
IL	1901	Lamp 40mA 14V	CEL1605
IL	1902	Lamp 40mA 14V	CEL1605
IL	1903	Lamp 40mA 14V	CEL1605
IL	1904	Lamp 40mA 14V	CEL1605
IL	1905	Lamp 40mA 14V	CEL1605
LCD	1901	LCD	CAW1543

RESISTORS

R	1901		RS1/10S222J
R	1902		RS1/10S222J
R	1903		RS1/10S472J
R	1908		RS1/10S473J
R	1909		RS1/10S473J
R	1910		RS1/10S473J
R	1911		RS1/10S473J
R	1912		RS1/10S473J
R	1913		RS1/10S473J
R	1922		RS1/10S473J

CAPACITORS

C	1901		CEAL100M16
C	1902		CKSQYB104K16

B Number : CWE1467(UC model)
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412K
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412K
Q	201	FET	2SK932
Q	202	Transistor	2SC2412K
Q	203	Transistor	DTC124EU
D	1	Diode	RD39JS
D	2	Diode	RD39JS
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	6	Diode	MA157
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1133

Circuit Symbol and No.		Part Name	Part No.
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1133
L	5	Coil	CTC1132
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1117
T	51	Coil	CTC1159
CF	51	Ceramic Filter	CTF1441
CF	52	Ceramic Filter	CTF1441
CF	53	Ceramic Filter	CTF1441
CF	232	Ceramic Filter	CTF1348
X	151	Radiator 918.5Hz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213

RESISTORS

R	1		RS1/16S225J
R	2		RS1/16S225J
R	4		RS1/16S154J
R	5		RS1/16S391J
R	6		RS1/16S223J
R	7		RS1/16S123J
R	8		RS1/16S332J
R	9		RS1/16S473J
R	10		RS1/16S223J
R	11		RS1/16S124J
R	13		RS1/16S563J
R	15		RS1/16S271J
R	16		RS1/16S104J
R	17		RS1/16S332J
R	18		RS1/16S332J
R	31		RS1/16S470J
R	32		RS1/16S822J
R	33		RS1/16S822J
R	34		RS1/16S331J
R	35		RS1/16S331J
R	51		RS1/16S271J
R	52		RS1/16S560J
R	55		RS1/16S102J
R	56		RS1/16S823J
R	61		RS1/16S392J
R	62		RS1/16S273J
R	101		RS1/16S272J
R	102		RS1/16S682J
R	103		RS1/16S333J
R	104		RS1/16S334J
R	105		RS1/16S683J
R	107		RS1/16S222J
R	151		RS1/16S222J
R	152		RS1/16S393J
R	155		RS1/16S273J
R	156		RS1/16S243J
R	157		RS1/16S203J
R	160		RS1/16S222J
R	161		RS1/16S563J
R	162		RS1/16S105J
R	163		RS1/16S223J
R	202		RS1/16S223J
R	203		RS1/16S225J
R	204		RS1/16S103J
R	206		RS1/16S220J

Circuit Symbol and No.		Part Name	Part No.
R	207		RS1/16S101J
R	208		RS1/16S102J
R	209		RS1/16S471J
R	214		RS1/16S822J
R	215		RS1/16S822J
R	217		RS1/16S102J
R	231		RS1/16S272J
R	232		RS1/16S473J
R	237		RS1/16S103J
R	238		RS1/16S104J
R	239		RS1/16S104J
R	240		RS1/16S332J
R	241		RS1/16S202J
R	243		RS1/16S183J
R	244		RS1/16S392J
R	247		RS1/16S123J

CAPACITORS

C	1		CCSQCH6R0D50
C	2		CCSRCK2R0C50
C	4		CCSRCH820J50
C	6		CCSRCH820J50
C	8		CKSRYB103K25
C	9		CKSQYB104K16
C	10		CCSRCKR50C50
C	11		CEJA1R0M50
C	12		CKSRYB222K50
C	13		CKSRYB222K50
C	14		CCSRCH220J50
C	15		CCSRCH6R0D50
C	16		CCSRCH8R0D50
C	17		CKSRYB222K50
C	18		CKSRYB103K25
C	19		CKSRYB222K50
C	20		CKSRYB222K50
C	21		CEJA100M16
C	22		CCSRTH9R0D50
C	23		CCSRTH120J50
C	24		CCSRCH471J50
C	25		CKSRYB103K25
C	26		CCSRCH101J50
C	31		CKSRYB103K25
C	32		CKSQYB472K50
C	33		CCSRCH5R0C50
C	34		CKSQYB104K16
C	36		CCSRRH201J50
C	51		CKSRYB223K25
C	52		CKSRYB103K25
C	54		CCSRCH470J50
C	55		CKSQYB223K25
C	56		CKSQYB104K16
C	57		CKSRYB472K50
C	58		CEJA330M10
C	59		CKSRYB103K25
C	60		CKSRYB102K50
C	61		CCSRCH270J50
C	62		CKSRYB103K25
C	63		CEJAR22M50
C	101		CEJANP100M10
C	102		CKSRYB182K50
C	103		CKSRYB682K25
C	104		CEJA2R2M50
C	105		CKSRYB103K25

Circuit Symbol and No.		Part Name	Part No.
C	106		CCSRCH151J50
C	107		CKSRYB103K25
C	151		CKSRYB472K50
C	152		CKSQYB104K16
C	153		CEJA3R3M50
C	154		CKSQYB104K16
C	157		CEJA3R3M50
C	158		CKSYB474K16
C	159		CEJA220M6R3
C	160		CKSQYB104K16
C	161		CKSQYB104K16
C	162		CEJA3R3M50
C	163		CKSRYB102K50
C	170		CCSRCH100D50
C	201		CCSRCH471J50
C	202		CCSRCH100D50
C	203		CKSRYB332K50
C	204		CKSQYB473K16
C	205		CKSQYB473K16
C	206		CKSQYB104K16
C	207		CCSRCH560J50
C	209		CKSQYB104K16
C	211		CCSRCH101J50
C	212		CEJA470M6R3
C	213		CKSRYB103K25
C	216		CCSRCH101J50
C	217		CEJA1R5M50
C	219		CCSRCH471J50
C	220		CKSRYB103K25
C	230		CKSRYB103K25
C	231		CCSRCH330J50
C	232		CCSRCH150J50
C	233		CKSQYB104K16
C	234		CEJA330M10
C	235		CKSRYB332K50
C	236		CKSQYB473K16
C	237		CCSRCH120J50
C	239		CKSRYB472K50
C	240		CEJAR47M50
C	241		CKSQYB104K16
C	242		CEJAR47M50
C	243		CEJAR33M50
C	244		CKSQYB473K16
C	245		CKSRYB333K16
C	246		CKSQYB473K16
C	250		CCSRCH471J50

B

Unit Number : CWE1486(ES model)
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412K
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412K
Q	201	FET	2SK932
Q	202	Transistor	2SC2412K
Q	203	Transistor	DTC124EU
D	1	Diode	RD39JS
D	2	Diode	RD39JS
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	6	Diode	MA157
D	7	Diode	KV1410-F1

Circuit Symbol and No.		Part Name	Part No.
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1133
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1133
L	5	Coil	CTC1132
L	6	Inductor	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1117
T	51	Coil	CTC1159
CF	51	Ceramic Filter	CTF1441
CF	52	Ceramic Filter	CTF1441
CF	53	Ceramic Filter	CTF1441
CF	232	Ceramic Filter	CTF1348
X	151	Radiator 918.5Hz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213

RESISTORS

R	1	RS1/16S225J
R	2	RS1/16S225J
R	4	RS1/16S154J
R	5	RS1/16S391J
R	6	RS1/16S223J
R	7	RS1/16S123J
R	8	RS1/16S332J
R	9	RS1/16S473J
R	10	RS1/16S223J
R	11	RS1/16S124J
R	13	RS1/16S563J
R	15	RS1/16S271J
R	16	RS1/16S104J
R	17	RS1/16S332J
R	18	RS1/16S332J
R	31	RS1/16S470J
R	32	RS1/16S822J
R	33	RS1/16S822J
R	34	RS1/16S331J
R	35	RS1/16S331J
R	51	RS1/16S271J
R	52	RS1/16S560J
R	55	RS1/16S102J
R	56	RS1/16S823J
R	61	RS1/16S392J
R	62	RS1/16S273J
R	101	RS1/16S272J
R	102	RS1/16S682J
R	103	RS1/16S333J
R	104	RS1/16S334J
R	105	RS1/16S683J
R	107	RS1/16S222J
R	151	RS1/16S222J
R	152	RS1/16S393J
R	155	RS1/16S273J
R	156	RS1/16S243J
R	157	RS1/16S203J
R	160	RS1/16S222J
R	161	RS1/16S563J
R	162	RS1/16S105J

=====Circuit Symbol and No.	===Part Name	Part No.
R 163		RS1/16S223J
R 202		RS1/16S223J
R 203		RS1/16S225J
R 204		RS1/16S103J
R 206		RS1/16S220J
R 207		RS1/16S101J
R 208		RS1/16S102J
R 209		RS1/16S471J
R 214		RS1/16S822J
R 215		RS1/16S822J
R 217		RS1/16S102J
R 231		RS1/16S272J
R 232		RS1/16S473J
R 237		RS1/16S103J
R 238		RS1/16S104J
R 239		RS1/16S104J
R 240		RS1/16S332J
R 241		RS1/16S202J
R 243		RS1/16S183J
R 244		RS1/16S392J
R 247		RS1/16S123J
CAPACITORS		
C 1		CCSQCH6R0D50
C 2		CCSRCK2R0C50
C 4		CCSRCH820J50
C 6		CCSRCH820J50
C 8		CKSRYB103K25
C 9		CKSQYB104K16
C 10		CCSRCKR50C50
C 11		CEJA1R0M50
C 12		CKSRYB222K50
C 13		CKSRYB222K50
C 14		CCSRCH220J50
C 15		CCSRCH6R0D50
C 16		CCSRCH8R0D50
C 17		CKSRYB222K50
C 18		CKSRYB103K25
C 19		CKSRYB222K50
C 20		CKSRYB222K50
C 21		CEJA100M16
C 22		CCSRTH9R0D50
C 23		CCSRTH120J50
C 24		CCSRCH471J50
C 25		CKSRYB103K25
C 31		CKSRYB103K25
C 32		CKSQYB472K50
C 33		CCSRCH5R0C50
C 34		CKSQYB104K16
C 36		CCSRRH201J50
C 51		CKSRYB223K25
C 52		CKSRYB103K25
C 54		CCSRCH470J50
C 55		CKSQYB223K25
C 56		CKSQYB104K16
C 57		CKSRYB472K50
C 58		CEJA330M10
C 59		CKSRYB103K25
C 60		CKSRYB102K50
C 61		CCSRCH270J50
C 62		CKSRYB103K25
C 63		CEJAR22M50
C 101		CEJANP100M10

=====Circuit Symbol and No.	===Part Name	Part No.
C 102		CKSRYB182K50
C 103		CKSRYB682K25
C 104		CEJA2R2M50
C 105		CKSRYB103K25
C 106		CCSRCH151J50
C 107		CKSRYB103K25
C 151		CKSRYB472K50
C 152		CKSQYB104K16
C 153		CEJA3R3M50
C 154		CKSQYB104K16
C 157		CEJA3R3M50
C 158		CKSYB474K16
C 159		CEJA220M6R3
C 160		CKSQYB104K16
C 161		CKSQYB104K16
C 162		CEJA3R3M50
C 163		CKSRYB102K50
C 170		CCSRCH100D50
C 201		CCSRCH471J50
C 202		CCSRCH100D50
C 203		CKSRYB332K50
C 204		CKSQYB473K16
C 205		CKSQYB473K16
C 206		CKSQYB104K16
C 207		CCSRCH560J50
C 209		CKSQYB104K16
C 211		CCSRCH101J50
C 212		CEJA470M6R3
C 213		CKSRYB103K25
C 216		CCSRCH101J50
C 217		CEJA1R5M50
C 219		CCSRCH471J50
C 220		CKSRYB103K25
C 230		CKSRYB103K25
C 231		CCSRCH330J50
C 232		CCSRCH150J50
C 233		CKSQYB104K16
C 234		CEJA330M10
C 235		CKSRYB332K50
C 236		CKSQYB473K16
C 237		CCSRCH120J50
C 239		CKSRYB472K50
C 240		CEJAR47M50
C 241		CKSQYB104K16
C 242		CEJAR47M50
C 243		CEJAR33M50
C 244		CKSQYB473K16
C 245		CKSRYB333K16
C 246		CKSQYB473K16
C 250		CCSRCH471J50

D Unit Number : EWM1021
Unit Name : Deck Unit

MISCELLANEOUS

IC	251	IC	CXA2559Q
IC	351	IC	PA2020A
D	352	Diode	1SS355

RESISTORS

R	255	RS1/16S221J
R	256	RS1/16S221J
R	257	RS1/16S102J
R	258	RS1/16S102J
R	271	RS1/16S102J

=====Circuit Symbol and No.===Part Name			Part No.
R	272		RS1/16S102J
R	273		RS1/16S102J
R	274		RS1/16S102J
R	281		RS1/8S0R0J
R	282		RS1/8S0R0J
R	283		RS1/8S0R0J
R	284		RS1/8S0R0J
R	285		RS1/16S0R0J
R	286		RS1/16S0R0J
R	287		RS1/8S0R0J
R	290		RS1/8S0R0J
R	301		RS1/16S183J
R	302		RS1/16S163J
R	303		RS1/16S163J
R	304		RS1/16S163J
R	305		RS1/16S163J
R	323		RS1/8S0R0J
R	351		RS1/16S102J
R	352		RS1/16S102J
R	353		RS1/16S102J
R	354		RS1/16S102J
R	355		RS1/10S274J
R	362		RS1/8S181J
R	373		RS1/8S0R0J
R	374		RS1/8S0R0J
R	401		RS1/16S472J
R	402		RS1/16S163J
R	403		RS1/16S823J

CAPACITORS

C	251		CKSRYB331K50
C	252		CKSRYB331K50
C	253		CKSRYB331K50
C	254		CKSRYB331K50
C	255		CKSRYB103K25
C	256		CKSRYB103K25
C	272		CKSQYB104K16
C	273		CEJA220M16
C	301		CKSYB104K50
C	302		CKSYB104K50
C	313		CCSQCH101K50
C	351		CKSYB224K25
C	352		CKSQYB392K50
C	353		CKSQYB103K50
C	354		CKSQYB103K50
C	355		CKSYB104K50
C	356		CKSQYB103K50
C	401		CKSQYB334K16
C	402		CKSQYB472K50
C	403		CKSQYB683K16

E Unit Number :
Unit Name : PCB Unit

S	1	Switch (Load)	ESG1004
EGN	1	Photo-Interrupter	EGN1005

F Unit Number :
Unit Name : Reel PCB

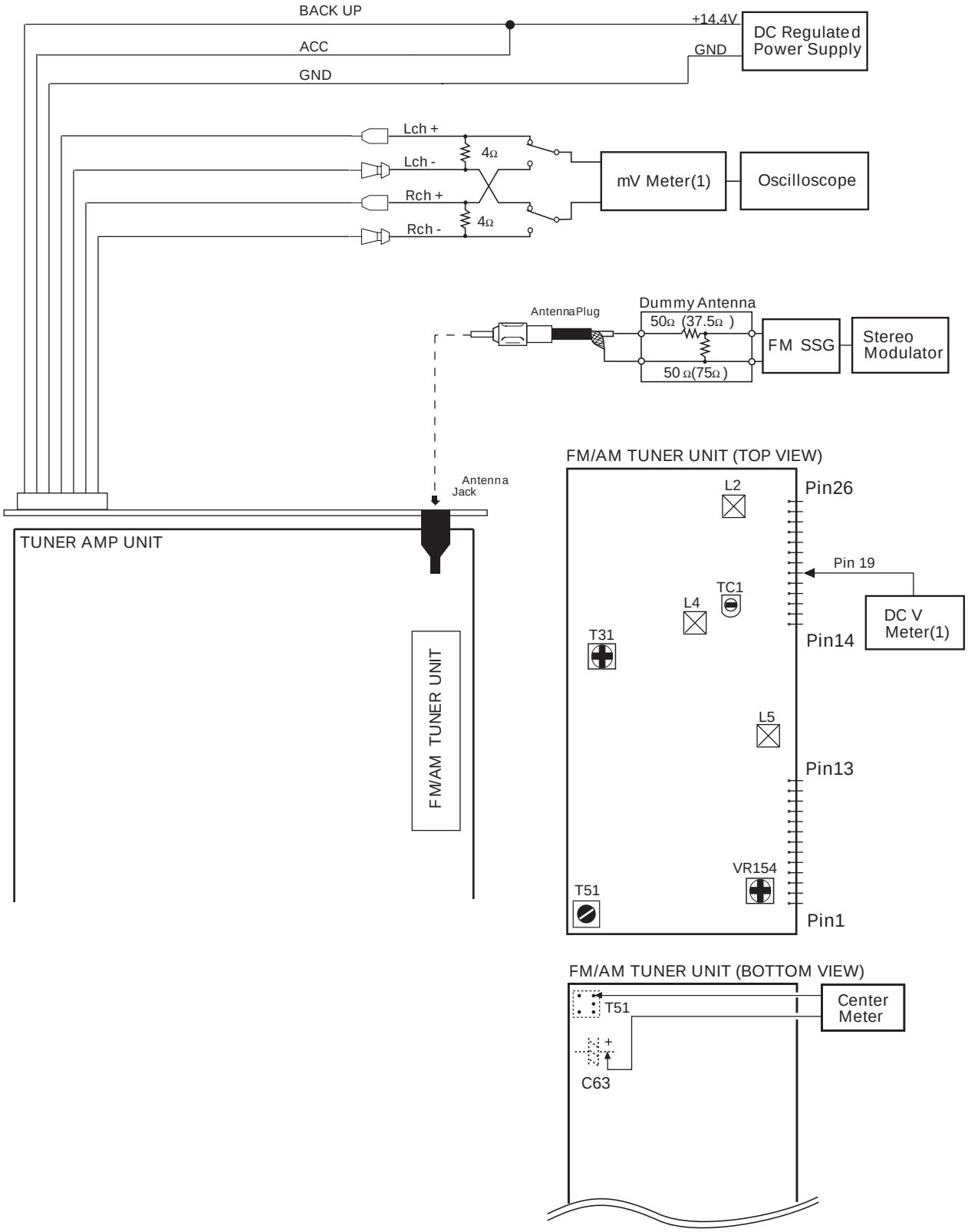
EGN	2	Photo-Interrupter	EGN1006
EGN	3	Photo-Interrupter	EGN1006

Miscellaneous Parts List

M	1	Motor Unit (Main)	EXA1490
M	2	Motor Unit (Sub)	EXA1485
HD	1	Head Assy	EXA1506

6. ADJUSTMENT

● Connection Diagram



Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.) or 400Hz 100%(75kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

FM ADJUSTMENT(UC MODEL)

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	107.9	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60—100	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

FM ADJUSTMENT(ES MODEL)

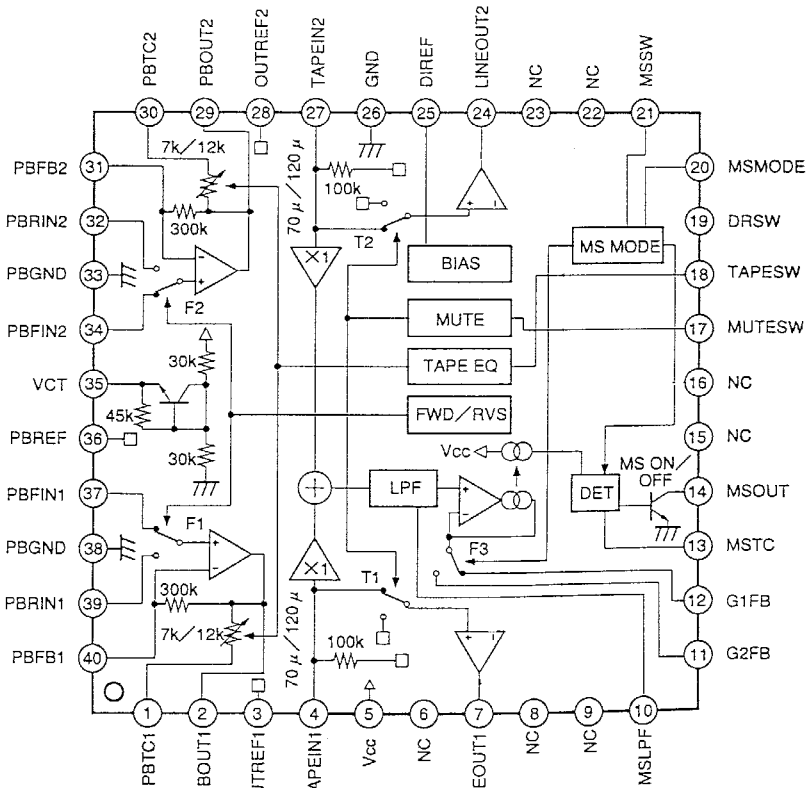
	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60—100	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

CXA2559Q

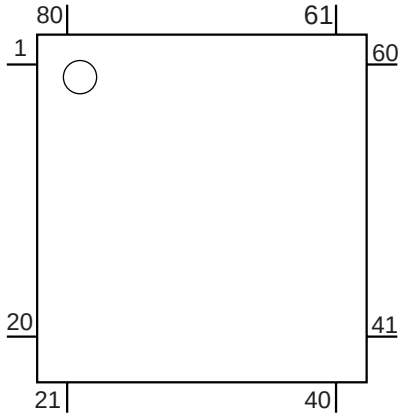


● Pin Functions(PD4973A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	ASENBO	O	C	Slave power supply control output
2	NC			Not used
3	ADPW	O	C	A/D converter power output
4	AVSS			GND
5	$\overline{\text{SWVDD}}$	O	C	Grille power supply control output
6	$\overline{\text{ST}}$	I		FM stereo input
7	AVREF1			D/A converter standard voltage
8	KYDT	I		Grille MicroComputer data input
9	DPDT	O	C	Grille MicroComputer data output
10	NC			Not used
11	TUNPDI	I		PLL IC data input
12	TUNPDO	O	C	PLL IC data output
13	TUNPCK	O	C	PLL IC clock output
14	TUNPCE	O	C	PLL IC chip enable output
15,16	NC			Not used
17	TX	O	C	IP BUS data output
18,19	NC			Not used
20	DIMMER	O	C	Dimmer select output
21	DRELAY	O	C	Detach alarm relay output
22	VST	O	C	Strobe pulse output for electronic volume
23	VCK	O	C	Clock output for electronic volume
24	VDT	O	C	Data output for electronic volume
25	LCDPW	O	C	LCD back light power supply control output
26	ILMPW	O	C	Illumination power supply control output
27	DRSENS	I		Door open/close sense input
28	DRSYS	O	C	Door system select output
29	FM	O	C	FM power control output
30	AM	O	C	AM power control output
31	CM	O	C	Cassette mechanism capstan motor control output
32	NC			Not used
33	VSS			GND
34	SC2	O	C	Cassette mechanism sub motor control output
35	SC1	O	C	Cassette mechanism sub motor control output
36	MSIN	I		Cassette mechanism MS sense input
37	RIMUTE	O	N	RI output port
38	$\overline{\text{MTLSW}}$	I		Metal sense input
39	$\overline{\text{DLED}}$	O	N	Alarm LED output
40	$\overline{\text{N}}$/R	O	C	Normal reverse output
41	PLAY	O	C	Tape MS filter select output
42	$\overline{\text{LOADSW}}$	I		Tape loading input
43	POS	I		Cassette mechanism position sense input
44	RES	I		Cassette mechanism reverse end sense input
45	PEE	O	C	Beep tone output
46	NES	I		Cassette mechanism forward end sense input
47	NC			Not used
48	STBY	O	C	Stand-by output
49–52	NC			Not used
53	SD	I		SD input
54	$\overline{\text{MUTE}}$	O	C	Mute output
55	SYSPW	O	C	System power supply control output
56–59	NC			Not used
60	RESET	I		Reset input
61	RX	I		IP BUS data input
62	NC			Not used
63	$\overline{\text{DSENS}}$	I		Grille detach sense input
64	TELIN	I		TEL mute signal input
65	$\overline{\text{ASENS}}$	I		ACC power sense input
66	$\overline{\text{BSENS}}$	I		Back up power sense input
67	CLKIN	I		Clock input

Pin No.	Pin Name	I/O	Format	Function and Operation
68	VDD			VDD
69	X2			Oscillator output
70	X1			Oscillator input
71	IC			Connect to GND
72	XT2			Sub Clock terminal
73	TESTIN	I		Test program mode input
74	AVDD			A/D converter analog power supply (VDD)
75	AVREF0	I		A/D converter standard voltage input
76	SL	I		Signal level input
77	MODEL0	I		Model select input
78	MODEL1	I		Model select input
79,80	NC			Not used

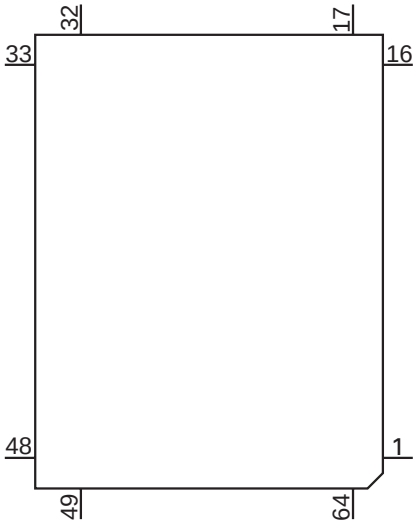
*PD4973A



Format	Meaning
C	C MOS
N	N Channel open drain

IC's marked by* are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

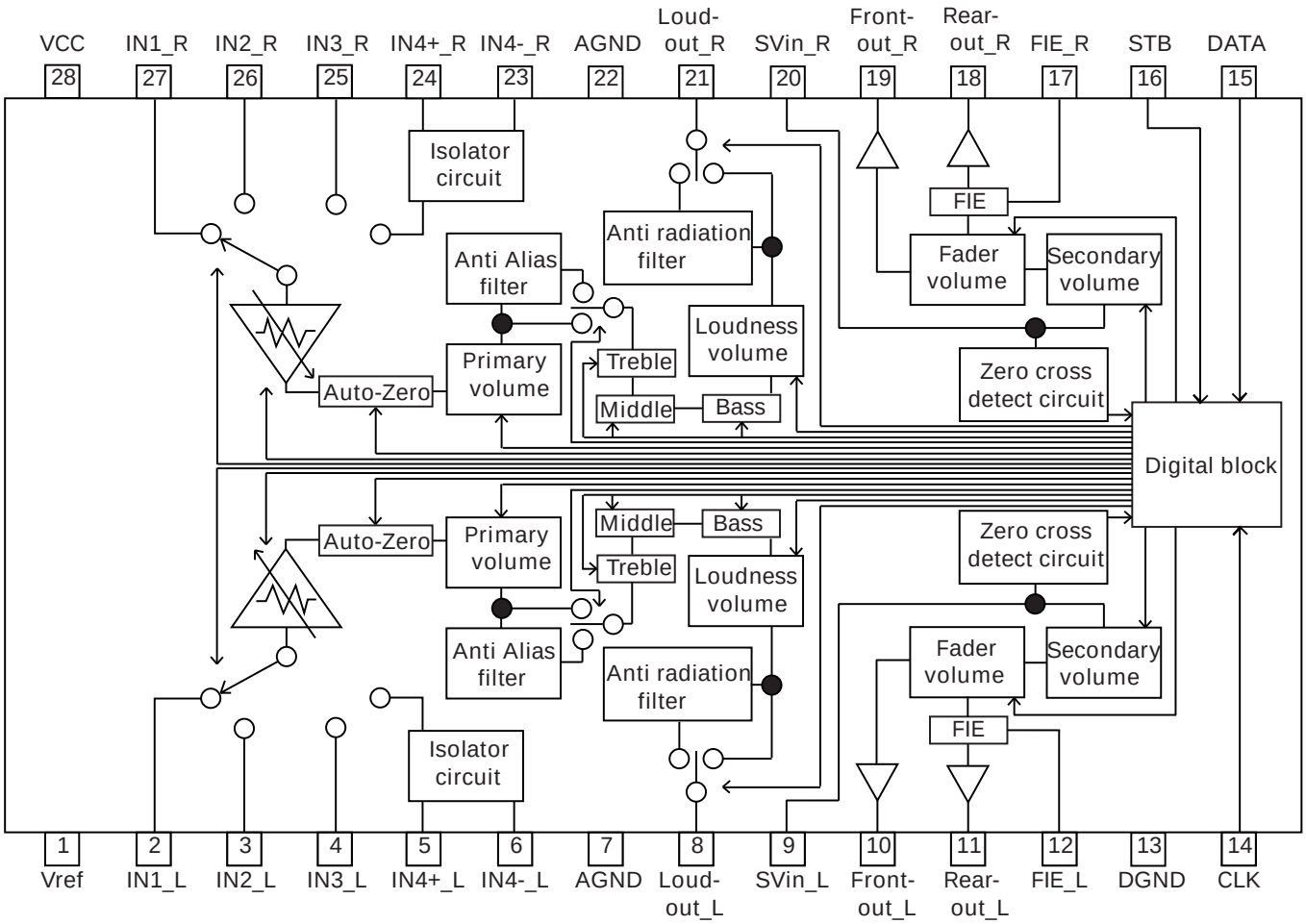
*PD6278A



● Pin Functions (PD6278A)

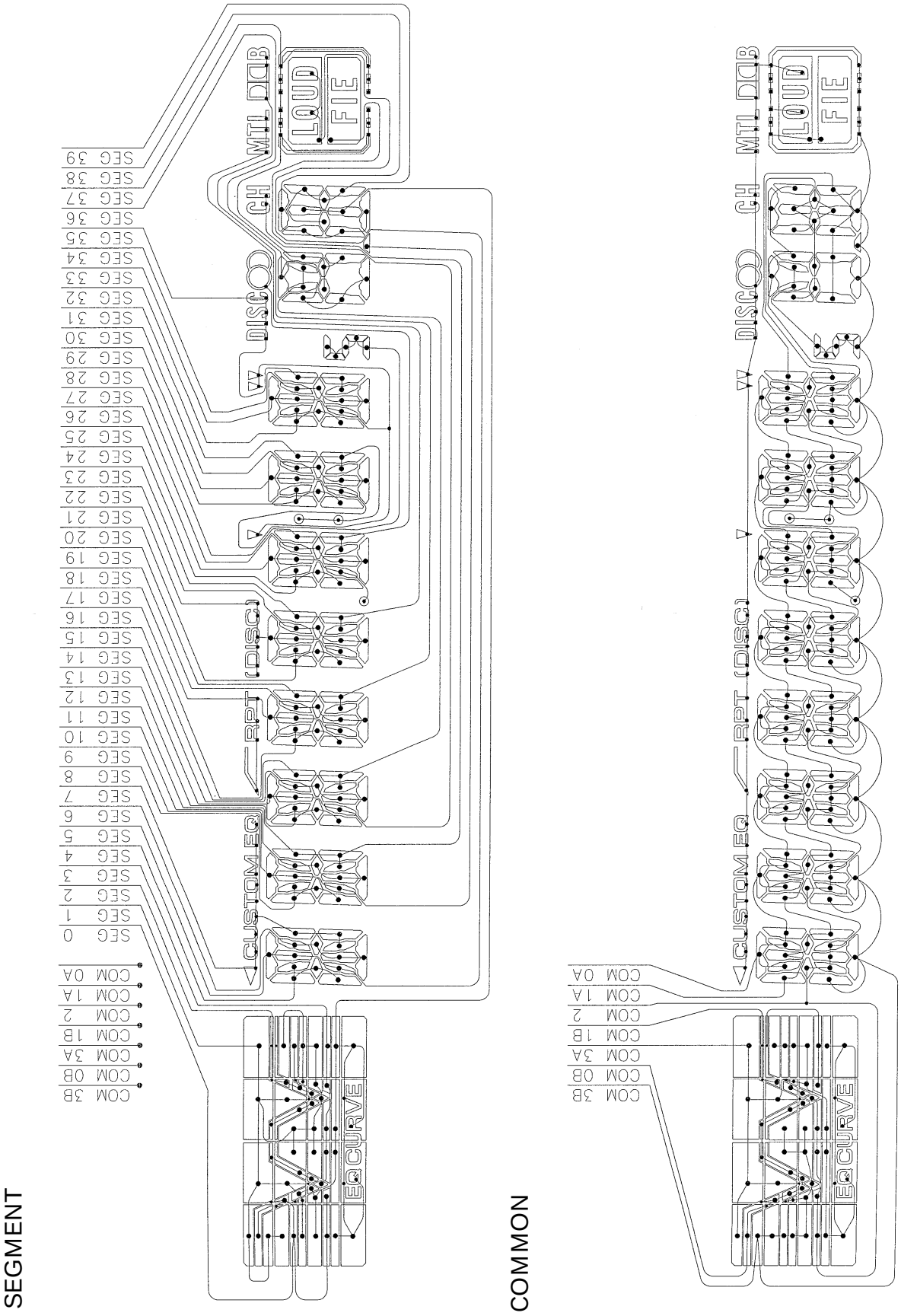
Pin No.	Pin Name	I/O	Function and Operation
1-5	SEG4-0	O	LCD segment output
6-9	COM3-0	O	LCD common output
10	V3		LCD drive power supply
11-14	KS4-1	O	Key strobe output
15,16	KD1,2	I	Key data input (analogue input)
17	REM	I	Remote control reception
18	RXD	I	System micro computer UART communication data input
19	$\overline{RST}$	I	System reset
20	TXD	O	System micro computer UART communication data output
21	MODA		GND
22	X0		Crystal oscillator connection pin
23	X1		Crystal oscillator connection pin
24	VSS		GND
25,26	KD3,4	I	Key data input
27,28	KS6,5	O	Key strobe output
29-55	SEG39-13	O	LLCD segment output
56	VCC		Power supply
57-64	SEG12-5	O	LCD segment output

PML003AM



7.1.2 DISPLAY

● CAW1543



7.2 DISASSEMBLY

● Removing the Case(not shown)

1. Remove the two screws.
2. Remove the Case.

● Removing the Cassette Mechanism Module (not shown)

1. Remove the four screws.
2. Disconnect the connector, and then removing the Cassette Mechanism Module.

● Removing the Panel Unit(Fig.1)

1 Remove the two screws.

2 Disengage the stopper at two locations indicated and remove the Panel Unit.

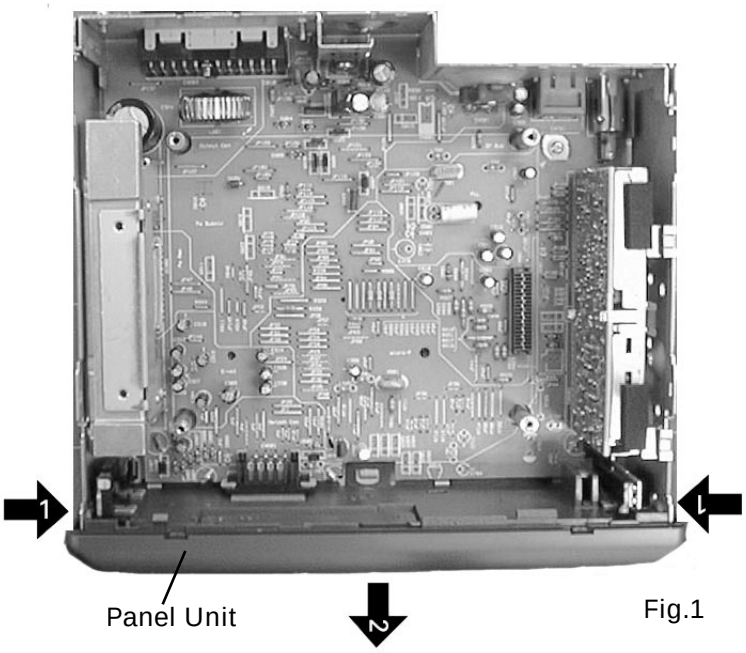


Fig.1

● Removing the Tuner Amp Unit(Fig.2)

1 Removing the two screws.

2 Removing the three screws.

3 Removing the screw.

4 Unbend the tabs at three locations indicated by arrow until straight. Remove the Tuner Amp Unit.

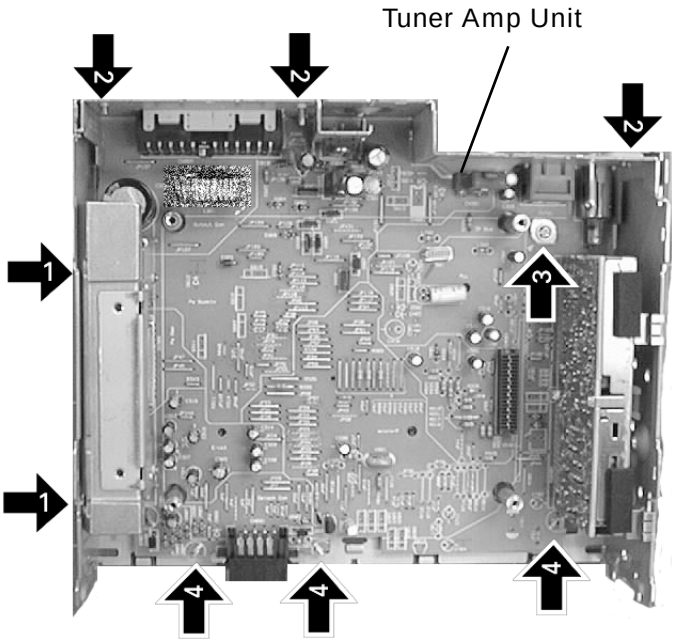
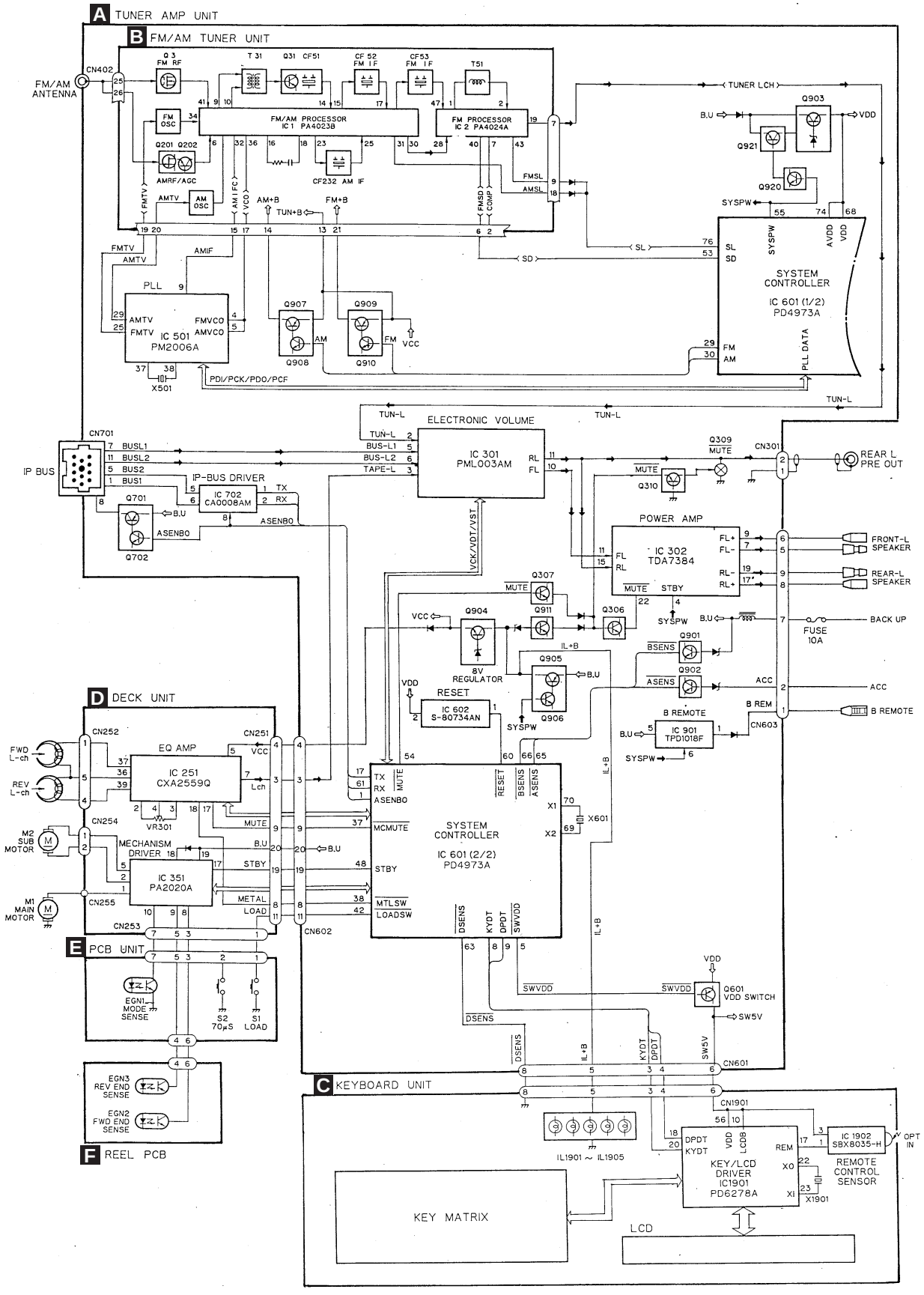
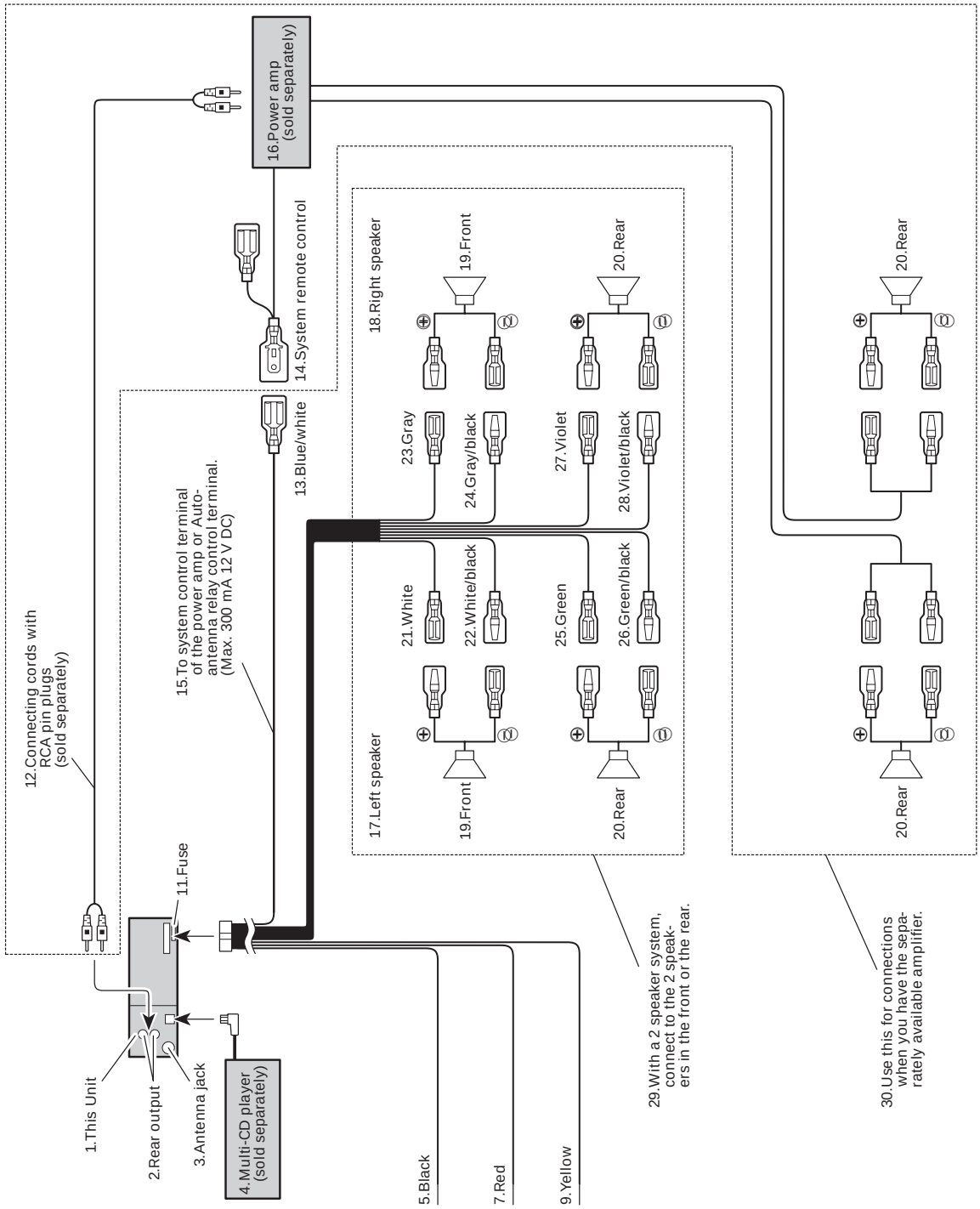


Fig.2

7.3 BLOCK DIAGRAM

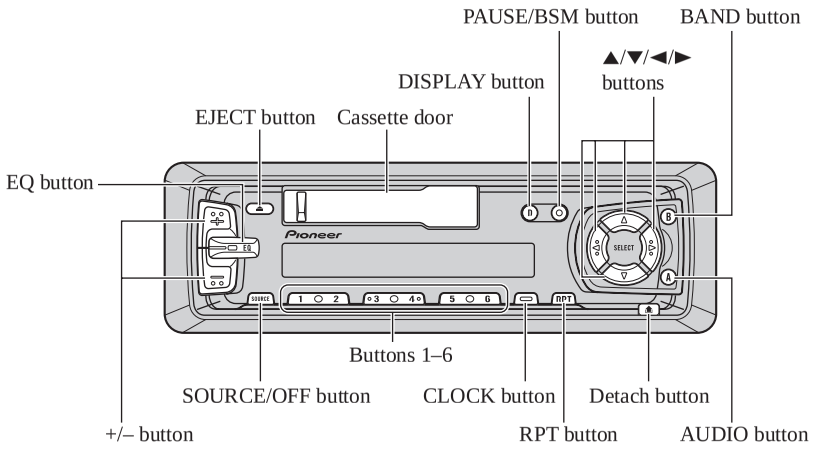


8. OPERATIONS AND SPECIFICATIONS



Key Finder

Head Unit



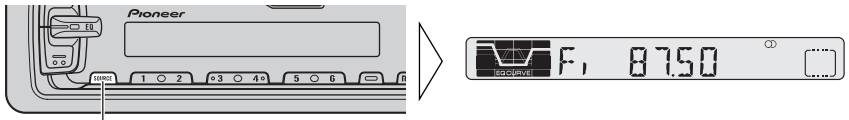
Basic Operation

To Listen to Music

The following explains the initial operations required before you can listen to music.

Note:
- Loading a cassette in this product.

1. Select the desired source. (e.g. tuner)

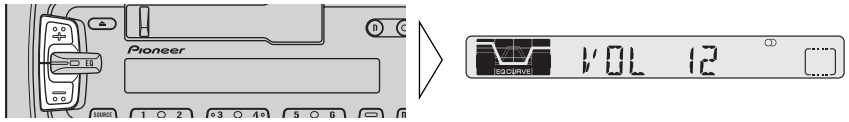


Each press changes the Source ...

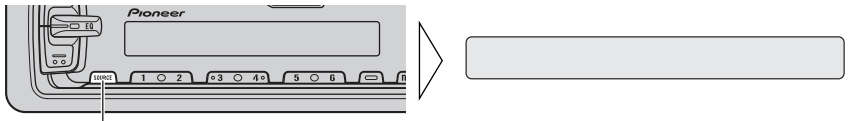
Each press of the SOURCE/OFF button selects the desired source in the following order:
CD player (one disc only) → Tuner → Tape → Multi-CD player → AUX

Note:
- In the following cases, the sound source will not change:
  * When a product is not connected to this product.
  * When no tape is set in this product.
  * When no magazine is set in the Multi-CD player.
  * When no disc is set in the CD player.
  * When the AUX (external input) is set to OFF.

2. Raise or lower the volume.



3. Turn the source OFF.



Hold for 1 second or more

Basic Operation of Tuner

Reset the AM tuning step from 9 kHz (the factory preset step) to 10 kHz when using the tuner in North, Central or South America.

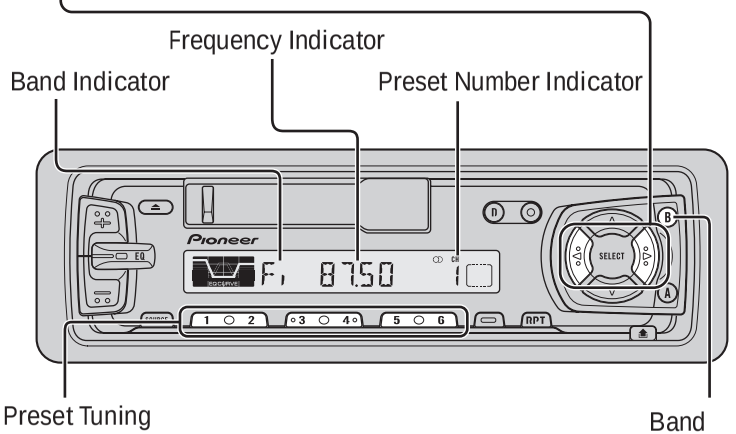
Manual and Seek Tuning

- **You can select the tuning method by changing the length of time you press the ◄/► button.**

Manual Tuning (step by step)	0.5 seconds or less
Seek Tuning	0.5 seconds or more

Note:
- If you continue pressing the button for longer than 0.5 seconds, you can skip broadcast stations. Seek Tuning starts as soon as you stop pressing the button.

Note:
- "◯◯" stereo indicator lights when a stereo station is selected.



- **You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.**

Preset station recall	2 seconds or less
Broadcast station preset memory	2 seconds or more

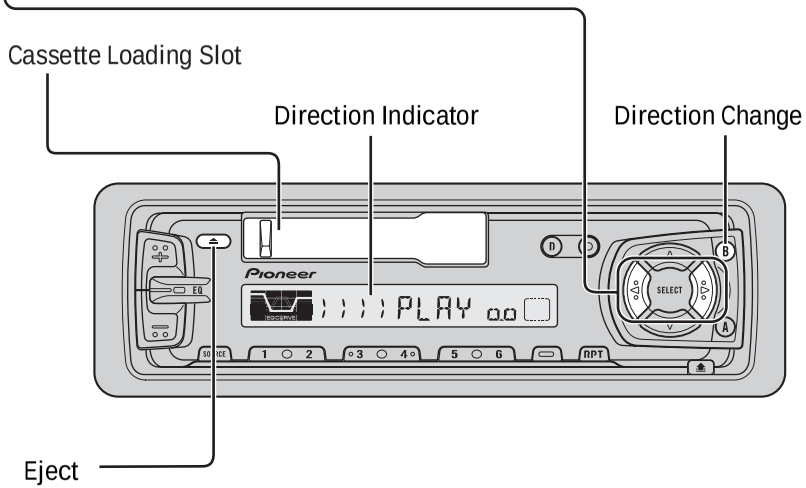
Note:
- Up to 18 FM stations (6 in FI (FM1), FII (FM2) and FIII (FM3)) and 6 AM stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

Basic Operation of Cassette Player

Fast Forward/Rewind and Music Search

- **Each press of the ► button selects Fast forward or Forward-Music Search.**
  FF (Fast forward) → F-MS (Forward-Music Search) → Normal Playback
- **Each press of the ◄ button selects Rewind or Rewind-Music Search.**
  REW (Rewind) → R-MS (Rewind-Music Search) → Normal Playback

Note:
- Fast forward/Rewind and Music Search can be canceled by pressing the BAND button.



Note:
- The Tape function can be turned ON/OFF with the cassette tape remaining in this product.

Basic Operation of Multi-CD Player

This product can control one or more multi-CD players. (There are some types of Multi-CD players such as “CDX-P630S” which you cannot connect more than one.)

Switching the Multi-CD Player

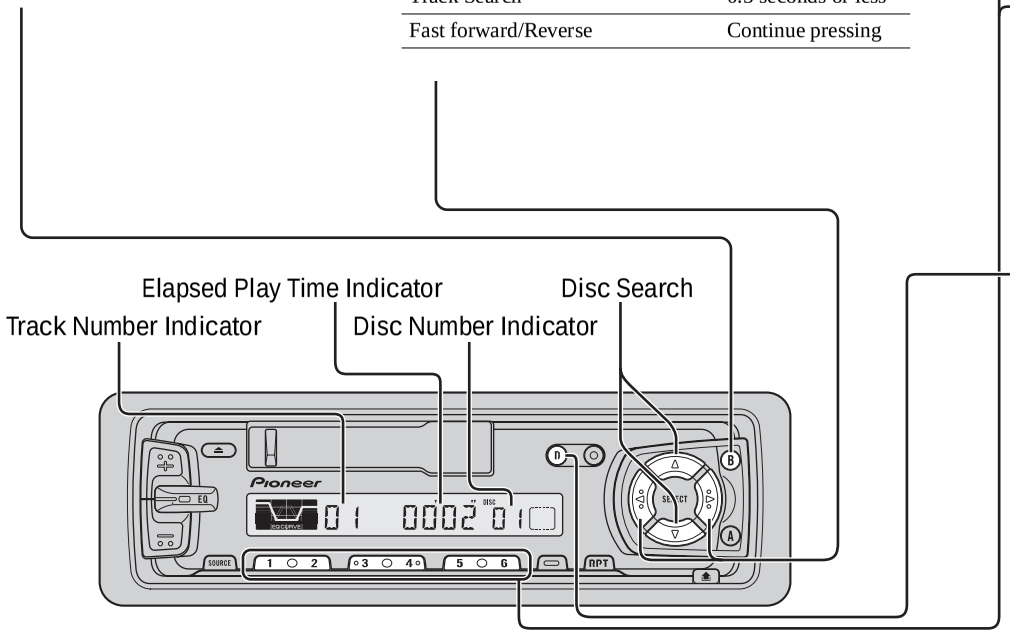
Using a multiple connection adapter lets you connect up to three Multi-CD players.

M-CD 1 → M-CD 2 → M-CD 3
(Displayed for about 2 seconds.)

Track Search and Fast Forward/Reverse

- **You can select between Track Search or Fast forward/Reverse by pressing the ◄/► button for a different length of time.**

Track Search	0.5 seconds or less
Fast forward/Reverse	Continue pressing



Disc Number Search (for 6-Disc, 12-Disc types)

- **You can select discs directly with the 1 to 6 buttons. Just press the number corresponding to the disc you want to listen to.**

Note:
- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1 to 6 buttons for 2 seconds or longer.

Disc Number Rough Search (for 50-Disc type only)

This handy function lets you select discs loaded in a 50-Disc Multi-CD Player using the 1 to 5 buttons. The 50 discs are divided into five blocks, with each of the 1 to 5 buttons assigned to a block.

- **Select the desired block with the 1 to 5 button.**

Note:
- After completing a rough search, use the ▲ and ▼ buttons to select a desired disc.

Displaying Disc Titles

- **Press the DISPLAY button, to change the Disc Title display of the current disc.**

Note:
- If you switch displays when disc titles have not been input, “NO TITLE” is displayed.
- Repeat the preceding operation to return to the normal display.

Note:
- The multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. “READY” is displayed.
- When a magazine is loaded into a 50-Disc type Multi-CD Player, information on all the discs in the magazine is read.
  If you start playing a disc on a 50-Disc type Multi-CD Player before reading of information on all discs has been completed, reading of information stops part way through.
- If the multi-CD player cannot operate properly, an error message such as “ERROR-14” is displayed. Refer to the multi-CD player owner’s manual.
- If there are no discs in the multi-CD player magazine, “NO DISC” is displayed.
- “LOAD” will be displayed in the following cases:
  * If the disc in the extra tray is selected.
  * If the disc is moved from the extra tray to the magazine.
  (Refer to the 50-Disc type multi-CD player owner’s manual.)
- You cannot use the “Ejecting a Single Disc”, “Frequency Play”, “Music Group Play” or “ABC Disc Title Search” functions with this product.

Basic Operation of CD Player (one disc only)

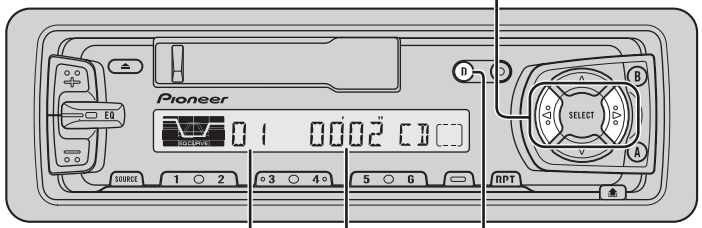
This product can control a CD player (one disc only).

Track Search and Fast Forward/Reverse

- **You can select between Track Search or Fast forward/Reverse by pressing the ◄/► button for a different length of time.**

Track Search	0.5 seconds or less
Fast-forward/Reverse	Continue pressing

Note:
- If the CD player cannot operate properly, an error message such as “ERROR-14” is displayed. Refer to the CD player owner’s manual.



- **Press the DISPLAY button, to change the Disc Title display of the current disc.**

Note:
- When a Multi-CD player is not connected to this product, this function does not work.
- If you switch displays when disc titles have not been input, “NO TITLE” is displayed.
- Repeat the preceding operation to return to the normal display.

8.2. SPECIFICATIONS

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 8.5 A
Dimensions
(DIN) (chassis) ..... 178 (W) × 50 (H) × 155 (D) mm
(nose) ..... 188 (W) × 58 (H) × 19 (D) mm
(D) (chassis) ..... 178 (W) × 50 (H) × 160 (D) mm
(nose) ..... 170 (W) × 48 (H) × 14 (D) mm
Weight ..... 1.2 kg

Amplifier

Continuous power output is 17 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.
Maximum power output ..... 40 W × 4
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Preout maximum output
level/output impedance ..... 2.2 Vp-p/1 kΩ
Equalizer (3 band equalizer)
(Low) ..... ±12 dB
(Mid) ..... ±12 dB
(High) ..... ±12 dB
Loudness contour
(Low) ..... +3.5 dB (100 Hz), +3 dB (10 kHz)
(Mid)..... +10 dB (100 Hz), +6.5 dB (10 kHz)
(High)..... +11 dB (100 Hz), +11 dB (10 kHz)
(volume: –30 dB)

Cassette player

Tape ..... Compact cassette tape (C-30 – C-90)
Tape speed ..... 4.76 cm/sec.(+0.14cm/sec.,-0.05cm/sec.)
Fast forward/rewinding time .... Approx. 100 sec. for C-60
Wow & flutter ..... 0.09% (WRMS)
Frequency response ..... Metal: 30 – 16,000 Hz (±3 dB)
Stereo separation ..... 45 dB
Signal-to-noise ratio ..... 61 dB (IEC-A network)

FM tuner

Frequency range(UCmodel) .....87.5 – 107.9 MHz
(ESmodel) ..... 87.5 – 108 MHz
Usable sensitivity ..... 11 dBf
(1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity .... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio ..... 70 dB (IEC-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)
Selectivity(UCmodel).....70dB(2ACA)
Three-signal intermodulation(UCmodel)
(desired signal level) 50dBf
(two undesire signal level : 100 dBf)

AM tuner

Frequency range ..... 531 – 1,602 kHz (9 kHz)
(ESmodel) 530 – 1,710 kHz (10 kHz)
Usable sensitivity ..... 18 µV (S/N: 20 dB)
Selectivity (ESmodel)..... 50 dB (±9 kHz)
50 dB (±10 kHz)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.